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ABSTRACT

In 1991, the Washington State Board for Community College Education conducted a study to determine the strengths and shortcomings of Washington community colleges' efforts to provide upgrading and retraining for employed workers. Data were derived from four separate studies conducted in 1990, including a survey of 1,151 employed students at eight colleges, summaries of focus groups and structured interviews, an analysis of community college enrollment data, and a survey of employer satisfaction with specialized training activities for the current workforce. Highlighted findings included the following: (1) 5% (110,000) of the 2,300,000 workers in Washington state enrolled in community colleges in fall 1990, and a third (35,700) did so with the goal of upgrading or retraining; (2) workers most likely to be served were women, workers with a high school diploma or some college education, younger workers and those in health, managerial, or administrative occupations; (3) the state general fund paid for most upgrading and retraining, with only 20% funded entirely by employers through contracted courses; (4) more students enrolled for upgrading and retraining (24%) than for entry-level job preparation (22%), with nearly 13.5% of the total full-time equivalent devoted to employed Washington workers; (5) about 64% of those enrolled in fall 1990 expected to need continual training (at least every few years); (6) students were least satisfied with the availability of classes, especially night courses, at community colleges; (7) employers were most satisfied with the cost-effectiveness of community college training; and (8) 95% of the state's employers have never contacted a community college for upgrading or retraining their workers. Appendixes provide the survey instruments and data summaries. (JSP)

Operations Report
No. 91-3

ED345790

Assessment of Meeting Employer Needs and the Labor Market Experience of Job Upgrading and Retraining Students in Washington Community Colleges

A Baseline Report

A Report Prepared by the
State Board for Community College Education

June 1991

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ACKNOWLEDGEMENTS

This report is based primarily on the dissertation research and analysis performed by Nancy Borton and Walt Nolte.

A Job Upgrading and Retraining Research Review Group assisted Nancy Borton and Walt Nolte in their studies and the State Board for Community College Education (SBCCE) staff in its design and analysis of this research. Community college members of that group were: Bob Beardemphl, Dean of Instruction, Everett Community College; Dorna Bullpitt, Associate Dean of Instruction, South Puget Sound Community College; Nancy Maxwell, formerly Associate Dean, Occupational Education/Economic Development at Columbia Basin College; Walt Nolte, Dean of Occupational Education and Continuing Education, Tacoma Community College and Nancy Warnstadt, Phoenix Center Director at Centralia College.

In addition to those representing the community colleges, the Review Group members included: Nancy Borton; Susan Dunn, Assistant Commissioner, Employment Security Department; Pat Green, SBCCE; Irv Lefberg, Executive Policy Analyst with the Office of Financial Management (OFM) and Loretta Seppanen, SBCCE.

Two other system groups aided in this study process. The SBCCE Ongoing Research Review Group was involved during the first year of the study. Members of that group are: Ron Bell, Shoreline Community College; Gene Schermer, Grays Harbor College; Susan Mancuso, Whatcom Community College; Jim Christianson, Seattle District Office; and Julia Adame, Bellevue Community College. The Washington Association of Community College (WACC) Student Outcomes Task Force was involved in the second year when the study became part of the student outcomes assessment research agenda. The Task Force members were Wally Simpson, Olympic College; Greg Fitch, Big Bend Community College; Jim Ford, Skagit Valley College; Ron Hamberg, Bruce Kochis, and Charles Mitchell, Seattle Central Community College; Arnie Heuchert, Wenatchee Valley College; Susan Mancuso, Whatcom Community College; Ray Needham, Tacoma Community College; Pat Green, Bill Moore, Loretta Seppanen, Sandy Wall, and Jan Yoshiwara, SBCCE.

Faculty, students and staff at eight colleges assisted with this study by administering or completing the student survey. The colleges that assisted were: Big Bend, Edmonds, Highline, North Seattle, Skagit Valley, South Puget Sound, Spokane and Tacoma. Chris Anderson, Skagit Valley College, designed the special computer procedure which was used to help select the courses for the survey sample.

Students, staff and employers who used the college services at seven colleges assisted with this study by participating in the focus group discussions or helping with the process. The colleges that assisted were: Columbia Basin, Edmonds, Green River, North Seattle, Skagit Valley, Spokane, and Spokane Falls.

SBCCE staff participating in the study were Jackie Eppler-Clark, Holly Clausen, Robert Kurtz, Deralyn Gjertson, Pat Green, Loretta Seppanen, and Bob Wark.

EXECUTIVE SUMMARY

INTRODUCTION

The economic and business climate in Washington, changes in technology, increases in knowledge, and labor force demographic shifts will necessitate some level of job upgrading and retraining for a substantial number of Washington state's workforce. With fewer young people available to enter the workforce, re-educating those who are now employed represents a paramount challenge.

Community colleges are seen as a key agent of the state in meeting this re-education need, whether that need be met through employer-sponsored activities (contracted courses) or the state-funded college curriculum. This study provides evidence of the strengths and shortcomings of Washington community colleges in their effort to provide upgrading and retraining for those already employed.

The study is one of five being conducted to assess and improve learning outcomes for students as a partial response to a Higher Education Coordinating Board (HECB) request for a systematic evaluation of student outcomes. Each of these studies also addresses the need for community colleges to gather feedback on the strengths and weaknesses of the education they provide. The other studies are listed in Appendix E.

POTENTIAL ACTION ISSUES

Community colleges provide upgrading and retraining to a large number of working adults each year. Most of those enrolled were well satisfied with the training provided. Employers who have contracted with the colleges were also pleased with the responsiveness and flexibility of the community college training. Most of the state's employers, however, have not sought the assistance of community colleges in retraining their workforce. Not all working adults were equally likely to be enrolled in the community college and those enrolled said that colleges could do more to remove barriers for working students.

This study identified five areas where the potential for improving the availability and quality of upgrading and retraining activities is high. During the next several quarters, colleges will be discussing these issues to determine how the community colleges can address these opportunities for program and service improvement. Addressing these issues will require a discussion with industry, labor and government related to a major policy issue: the appropriate roles for each in providing upgrading and retraining.

ACCESS: Nearly 110,000 workers (five percent of the state's workforce of 2,300,000 people) enroll in Washington community colleges each quarter. A third of those students (35,700) enroll with the goal of upgrading or retraining via their community college courses. Employees with less than a high school education, older workers and men are underserved compared to other groups.

> **Potential Action Issue: To what extent should service be equalized among <u>all</u> employee groups given availability of training from other sources? Is the current level of service appropriate to meet the needs of labor and industry?**

FUNDING THE UPGRADING AND RETRAINING MISSION: Upgrading and retraining is often thought of as contracts between a firm and the community college to train their employers. Actually contract-based, industry specific training accounts for only 20 percent of the upgrading and retraining taking place at the community colleges. Most upgrading and retraining students enroll on their own, with or without company support of their tuition costs, in regularly offered community college classes. Given the limits on state funding for regularly scheduled classes, colleges have had to curtail some offerings in order to expand others. It appears that colleges have been curtailing the regular offerings most likely to be taken by job upgrading and retraining students.

Potential Action Issues: Who should pay for upgrading and retraining? Should the market demand for such training be met at the expense of other missions? How can greater access by upgrading and retraining students be provided, if needed?

REMOVAL OF BARRIERS: While employers who use community colleges to meet their training needs are generally satisfied with the responsiveness and cost effectiveness of the community college training, most employers (95 percent) have never used the services of a community college. Employers say they need to know that community colleges can meet their specialized training needs. They also need to know who to contact to address their needs. Students need help from both their employers and colleges to address the conflict created when they share time between work and schoolwork. Some working students need financial assistance to take courses, help in overcoming the fear of failure and assistance with childcare.

Potential Action Issues: What methods can colleges use to help industry become more aware of the resources available to address their training and retraining needs? Do the policies regarding community college district boundaries need to be revised in order for colleges to be more responsive to industry needs? How can the community college and the employer work together to address the special needs of retraining students?

ENHANCING SUCCESS: Students say that some college services and procedures are not geared to meet the needs of working students enrolled for upgrading and retraining. Employers recommend that colleges become more entrepreneurial and do more to assure quality in instruction.

Potential Action Issues: How can the colleges change financial aid, job search assistance, course scheduling, registration, placement testing, course placement and advising services to better meet the needs of upgrading and retraining students? Can colleges increase their night time offerings to better meet the needs of working students? How can colleges assure employers regarding the quality of instruction? Do faculty need more recent industry experience? Should colleges market services to industry?

COOPERATION: This report is based on the assumption that upgrading and retraining activities at the community colleges have three beneficiaries: the working student, the employer and the state in terms of its economic well-being. Building cooperative relationships between labor, business and government can enhance the effectiveness of upgrading and retraining for the state's workforce.

Potential Action Issue: How should cooperative linkages be formed with labor, industry and government at both the district and state level?

OTHER HIGHLIGHTS

* Five percent (110,000 workers) of the 2,300,000 workers in Washington state enrolled in community colleges in fall 1990. About 35,700 of those enrolled have specific plans to upgrade their work skills or prepare for a career change via courses taken at the community college (see page 3). More than half (54 percent) of the fall 1990 upgrading and retraining students continued their enrollment in winter 1991 (see page C-5, Appendix C).

* Workers most likely to be served by the community colleges were (1) women, (2) workers with a high school diploma or some college education, (3) younger workers, and (4) those employed either in health, managerial or administrative occupations. (See page 3.)

* Most upgrading and retraining was paid for by the State general fund. About 20 percent of the upgrading and retraining activity is funded entirely by employers via contracted courses. About 27 percent of the working students in regular college classes receive partial or complete reimbursement from their employers for tuition. (See page 5.)

* About two-thirds of those attending community colleges for upgrading and retraining also participated in training provided by others such as universities and private vendors. (See page 6.)

* About half of all students enrolled at night were enrolled for upgrading or retraining purposes. Despite the large percentage of this group enrolled at night, 54 percent of upgrading and retraining students enrolled in day time classes. (See page C-4, Appendix C).

* In terms of numbers of students, more enroll for upgrading and retraining (24 percent) than enroll for entry-level job preparation (22 percent). About 13.5 percent of the total FTE is devoted to upgrading and retraining Washington workers. (See page 10.)

* About 64 percent of those enrolled for upgrading and retraining in fall 1990 expected to need continual training (at least every couple of years). (See page 13.)

* While only eight percent of the students at community colleges already possess the bachelor's degree or higher levels of education, 60 percent of bachelor's degree holders enrolled for upgrading and retraining purposes. (See page C-7, Appendix C.)

* Students were very satisfied with the quality of instruction at the community college. Those whose study required specialized equipment were also very satisfied with their access to up-to-date equipment. Students were least satisfied with the availability of classes, especially at night. Those who needed job services (42 percent) and financial aid (34 percent) were also less satisfied with these services than with others provided by the college. Forty-five percent of those who used the financial aid resources were dissatisfied and 37 percent were dissatisfied with job search information. (See pages 14.)

* Employers were most satisfied with the cost effectiveness of community college training including both the state-supported instruction for which they reimburse tuition for their employees and the customized training which they fund in its entirety. (See pages 15-16).

* Most of the state's employers (95 percent) have never contacted a community college for upgrading or retraining for their workers. Nearly half of that group (40 percent) said they did not know who to contact and 36 percent said the college did not have enough qualified instructors to meet their training needs. Employers think colleges need to be more entrepreneurial, to use appropriate techniques to assure quality, to make more use of video telecommunications for instruction and to more frequently award credit for learning on the job. (See pages 17-19.)

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PROBLEM STATEMENT

What are students gaining from their community college education? Is the state receiving educational quality for the tax dollars spent at each public college and university? Do employers receive benefits for the dollars spent to contract for customized training? These questions are being raised in Washington and around the country as educators and public policymakers assess the "student outcomes" of higher education.

Washington community colleges are committed to providing a high standard of excellence in the instruction and services they provide. In 1989 the community college began a process of systematically assessing student achievements for the purpose of providing feedback on the quality of instruction and services. This outcomes research agenda aims 1) to meet the state need for accountability, and 2) to improve learning. In addition to the analysis presented here regarding employed students enrolled to upgrade or retrain, this research agenda includes evaluation of the outcomes for students enrolled for transfer, entry level job preparation, adult basic education, and developmental (pre-college level) studies.

This research was designed to 1) describe the current status of upgrading and retraining in Washington community colleges, 2) identify the types of characteristics of the workers and industries served by the community colleges and 3) describe both the strengths and weaknesses of the training effort as seen by students and employers. This report evaluates the outcomes for students enrolling in community college courses for job upgrading and retraining. Each quarter some 37,500 students (24 percent of students enrolled in state-funded or contract courses) enroll for the purpose of gaining skills to keep up-to-date in their current job or to retrain for a job or career change.[1]

The study meets the 1989 HECB requirements for providing baseline data for accountability purposes and assessing the satisfaction of employers. The study also identifies potential action issues for the community colleges. During the next several quarters the community colleges will determine how to respond to these issues. The State Board for Community and Technical College (SBCTC) staff will prepare a report on the action steps developed as a result of that discussion.

[1] In addition to the 37,500 upgrading and retraining students, about 64,000 students enroll at the community college with the aim of transferring to a four-year institution. Half of these plan to meet job upgrading or career change goals at the four-year college. About 34,000 students enroll to prepare for an entry level job or to explore a career direction. About 10,000 students enroll with the goal of improving their basic skills. The remaining 10,000 are undecided about their goal or enroll for other reasons.

STUDY DESIGN

This analysis was based on four studies conducted in 1990:

* **The Impact of Working Adult Students on the Washington Community College System**, 1991 dissertation study of Walt Nolte, University of Texas. This study was based on fall 1990 survey of 1,151 employed students at eight representative Washington community colleges. Details of the survey process and a copy of the questionnaire are contained in Appendix A. The student-based survey findings stem from the Nolte survey or combinations of survey data and data from registration records and unemployment insurance files. Nolte's study also provided the test of the Human Resource Development (HRD) theory described in this report.

  Employed students who responded to the Nolte study included both those who planned to meet their upgrading goal directly at the community college and those who planned to meet that goal by obtaining a bachelor's degree. This analysis differs from the dissertation in that it focuses on the students enrolled to meet their upgrading and retraining goal directly at the community college.

* **An Assessment of the Job Upgrade/Retraining Education Offered by the Community Colleges in Washington State,** 1991 dissertation study of Nancy Borton, University of Washington. This study used focus groups and structured interviews to collect data on job upgrading and retraining students and their employers. Most of the qualitative information on employers reported here comes from the Borton study. The questionnaire used in the Nolte study was designed, in part, using the findings from the Borton study.

  Nancy Borton conducted separate focus groups with students and employers at six colleges representative of the community colleges in Washington. While individual focus group results do not provide data which can be extrapolated with confidence to all such students and employers, analysis of comments made in the group setting provide rich data on the concerns, interests and evaluations of those participating. Details of the focus group process are contained in Appendix B. By replicating the same procedure for each of the six groups and identifying the commonalities among students and employers, Borton was able to apply the results to other similar contexts.

* The State Board for Community College Education (SBCCE) staff completed an analysis of community college enrollment data for fall 1990 related to upgrading and retraining. Data was obtained from the SBCCE Student Management Information System (SMIS). SBCCE researchers focused on a description of job upgrading and retraining students and their enrollment pattern. Data elements used in describing upgrading and retraining students and enrollment figures by college are contained in Appendix C.

* SBCCE staff analysis of the results of **Employee Training & Retraining in the 1990's: A Survey of Washington State Employers** conducted by the Social and Economic Sciences Research Center, Washington State University, and review of findings reported in **Investment in Human Capital Study: Findings**, Office of Financial Management (OFM), December 1990. The survey provided information on employer satisfaction with specialized training activities for its current workforce. For more information on this survey, see Appendix D. The **Findings** were used to provide information from focus group interviews with employers.

The first three studies were conducted specifically for this report. The fourth study was conducted for other purposes, but provides useful information for this analysis. SBCCE and OFM provided partial funding for the Borton study. SBCCE provided partial funding of the Nolte study.

This analysis assumes that upgrading and retraining activities at the community college serve three beneficiaries: the employed student, the employer and the state in terms of its economic well-being. Thus the descriptive findings are presented from these three perspectives.

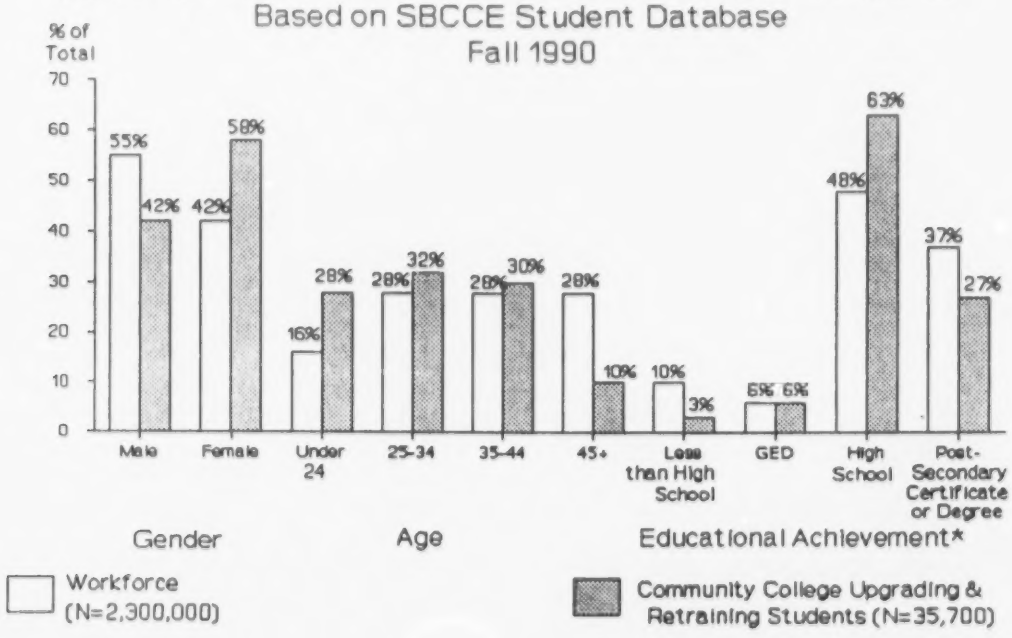
I: FINDINGS: SERVING THE STATE

WHO IS SERVED?

There is considerable evidence that workers need to continually learn new skills to meet today's workforce needs. Indeed in fall 1990 five percent of the Washington workforce enrolled at a community colleges (110,000 workers out of the workforce of 2,300,000 (1989 annual benchmark)). A third of these employed students or 37,500 students were taking community college courses to upgrade their current job skills or prepare for a career change. Another third had a similar goal, but planned to meet their goal by transferring to a four-year institution - a much longer-term career change or upgrading strategy. The remaining third included workers who were gaining basic skills which they saw as unrelated to their work, transfer students who saw their courses as unrelated to their work, personal enrichment students and those who were undecided. Thus, it is estimated that community colleges directly serve 1.6 percent of the state's workforce with upgrading and retraining education each year.

The 35,700 students who were upgrading their skills or preparing for a career change at the community college were not equally representative of all in the state's workforce. Community colleges were more likely to serve women, workers with above a high school-level education and younger workers, as shown in Figure 1.

Figure 1
Upgrading and Retraining Students vs Washington Workforce
Based on SBCCE Student Database
Fall 1990



* Data for the workforce educational achievement are SBCCE estimates based on extrapolation from two studies conducted by The Washington State Institute for Public Policy as part of the Family Income Study and the Survey of Economically Disadvantaged Males.

The upgrading and retraining workers served by the community colleges mirrored the state workforce in terms of race and ethnic background (12.8 percent of the students were of color compared to 10.1 percent of the 1987 workforce) and average wages (the average annual wage for those enrolled in upgrading and retraining was $22,026 compared to the 1990 average for all state workers covered by unemployment insurance of $22,401). Most upgrading and retraining students (82 percent) earned less than $30,000 annually. The median hours of employment were 36.6 hours.

While the community colleges served workers from all occupational categories, workers in some occupations were far more likely to be enrolled at the community college than those in other occupations. The percent of managerial, administrative and allied health workers in the community colleges was twice their percentage in the workforce as shown in Table I. Production, construction, maintenance, materials handling,and professional workers were represented at the community college at a much lower rate than their representation in the workforce. It is quite likely that workers in "professional/technical" occupations have access to upgrading and retraining opportunities from sources other than the community colleges. There is no basis for speculation on the other training including on-the-job training which might be available for production, construction, maintenance and materials handling workers.

TABLE I
Occupation of Community College Upgrading and Retraining Students Compared to the Washington State Workforce Student Survey, Fall 1990

Occupational Category (Number of Respondents)	% of Total Upgrading & Retraining	% in Workforce (1990)
Professional/Technical (176)	18%	19.5%
Clerical/Administrative Support (168)	16%	16.3%
Service (162)	15%	14.0%
Managerial/Administrative (122)	12%	5.8%
Production, Maintenance, Materials Handling (132)	13%	22.3%
Sales and Related (115)	11%	9.6%
Teachers and Related (60)	6%	4.5%
Health Practitioners (61)	6%	3.6%
Machine Setters, Operators (30)	3%	2.6%
Other (30)	3%	1.8%

According to responses from the student survey, more than a third of all upgrading and retraining students (35 percent) had worked for the same firm for four or more years. Nearly a third (31 percent) had been with their firm for less than a year. Another third (34 percent) had worked for the same firm from one to three years. There are no comparable data on the Washington workforce, so it is not know if any of these groups were under- or over-served by the community colleges.

Survey respondents who had been in their current job for only a couple years were more likely than others to enroll to change their jobs or careers. Those with longer tenure tended to be upgrading skills for jobs at their current place of employment.

WHO PAYS FOR UPGRADING AND RETRAINING?

Job upgrading and retraining is commonly thought of as resulting from a company or social service agency contracting for training of its employers or clients. In reality, the largest share of the upgrading and retraining effort involves employees selecting and paying for courses which meet their short- or long-term career goals. As a consequence, most of the instruction is in regular, state-supported courses where tuition pays for 23 percent of the cost of instruction and the state pays for the rest. In fall 1990, 80 percent of the classes taken by upgrading and retraining students were state-supported. The other 20 percent of courses were paid for entirely by the employer or by special grant funds such as those from the Job Training Partnership Act.

About 17 percent of the students responding to the survey received complete tuition reimbursement from their employer. Another 10 percent were partially reimbursed for tuition (see Table II). Most students bore the total cost of books, transportation, and other expenses associated with attending college with about 23 percent receiving support for these expenses from their employer or other sources.

Table II
Who Pays Tuition for Upgrading and Retraining Students
Student Survey, Fall 1990

	% of Total
Student paid all	49%
Employer paid all	17%
Employer paid part	10%
Financial aid paid all	9%
Financial aid paid part	4%
Parent/relatives paid	2%
G.I. Bill	1%
Vocational rehabilitation or other state programs	1%
Other	6%
	100%

In contrast with findings from national studies on retraining taken from both publicly supported and private vendors, this survey found that production workers received more financial support from their employers (50 percent received full tuition reimbursement) than did management (32 percent) and professional (35 percent) employees. National studies, however, include upgrading and retraining from all sources including private vendors which may be a more common source for management and professional staff training than community colleges. Employees in expanding companies and those facing increased competition or changing technology were more likely than others to be fully reimbursed for tuition.

The tuition reimbursement plans described by survey respondents included:

Fixed amount per course, per quarter, or per year (29%)
Full reimbursement if course meets criteria (related to work, supervisor approval(25%))
Must successfully complete course to be reimbursed (35%)

Some employers who reimburse tuition costs upon successful course completion also have developed means for their employees to borrow the tuition funds, thus further reducing the financial barrier for workers. One company reported that both their employee credit union and the community college came to the work site on registration day.

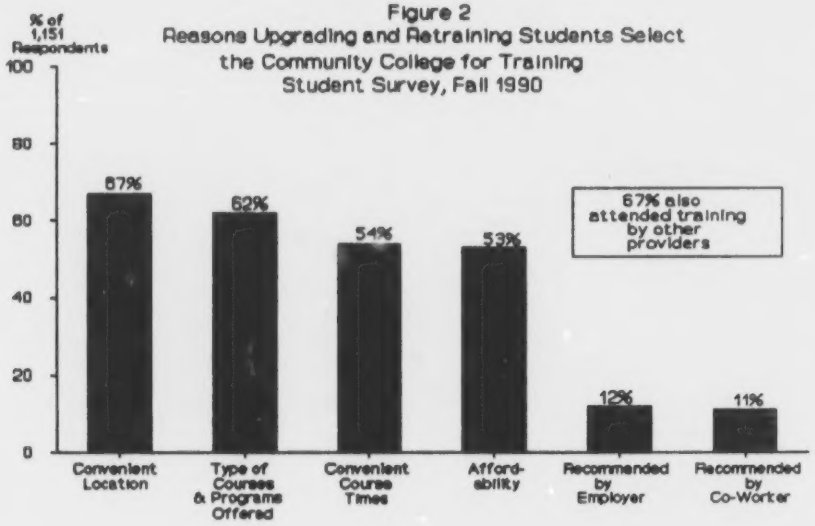
Employers generally believe they have an obligation to pay for required training. From these data, however, it is clear that the bulk of community college-based upgrading and retraining falls to the state and the worker to fund. The role of each party in funding such training may need further discussion.

WHY THE COMMUNITY COLLEGE AS A CHOICE FOR RETRAINING?

Two thirds of the students (67 percent) surveyed while at the community college had also participated in training programs at other sites. Seventy-five percent of these students had been trained at other post-secondary institutions; 65 percent at private seminars; 63 percent at employer-sponsored training and 28 percent in the military. Thus when students selected the community college, most did so as experienced shoppers for training-related services. Ninety-five percent who had attended other training said community college courses provided training that was as good or better than other training experiences.

Survey respondents elected to enroll at a community college because of its convenient location, the convenient times when courses were offered, the type of courses offered and the affordability of community college courses as shown in Figure 2.

Figure 2
Reasons Upgrading and Retraining Students Select the Community College for Training
Student Survey, Fall 1990



Note that union recommendation was not included as a response option in the survey.

II: FINDINGS: SERVING THE STATE'S EMPLOYERS

While most upgrading and retraining students enroll at the community college on their own, rather than as part of a program sponsored or encouraged by their employer, the skills gained do benefit the employer. Additionally, though few employers (six percent of the total) in this state have ever talked to a community college about offering special training for new or current employees, employers express a need to have their worker's skills upgraded.

TYPE OF TRAINING SOUGHT

The summer 1990 survey of employers found that of the six percent who had worked with a community college, most (91 percent) sought training in a specialized technical field directly related to a job as shown in Table III. About half the employers were also expecting the courses offered to provide improvement for their workers in critical thinking, communications and human relations. Few employers specifically sought basic skills training in reading, writing and math.

TABLE III
Type of Training Sought by Employers who had Contacted the Community College Employer Survey, Summer 1990

Type of Training Sought	% of Those Seeking (N=255 Firms)
Training in a specialized technical field related directly to a job	91%
Training in a professional field or specialty	67%
Training in appropriate work habits and attitudes	49%
Training in human relations skills	48%
Training in written or oral communication skills	46%
Training in thinking and reasoning skills	43%
Basic skills training such as reading, writing and arithmetic	26%
Liberal arts	11%

TRAINING BY INDUSTRY

Upgrading and retraining students worked in all the industry sectors represented in Washington as shown in Table IV. The percent of the total upgrading and retraining workers who came to community colleges from the service industries was higher than their representation in the workforce (39 percent of the students versus 24 percent of the workforce). Students from the service industries were more likely than others to say they enrolled to prepare for a job or career change. Transportation workers and those in the finance, insurance and real estate sector were enrolled at a slightly higher rate than their representation in the workforce. Most workers from these industries and construction said they enrolled to upgrade their current job skills. Government, trade and manufacturing industry employees were less likely than others to enroll at the community college to upgrade their skills or retrain.

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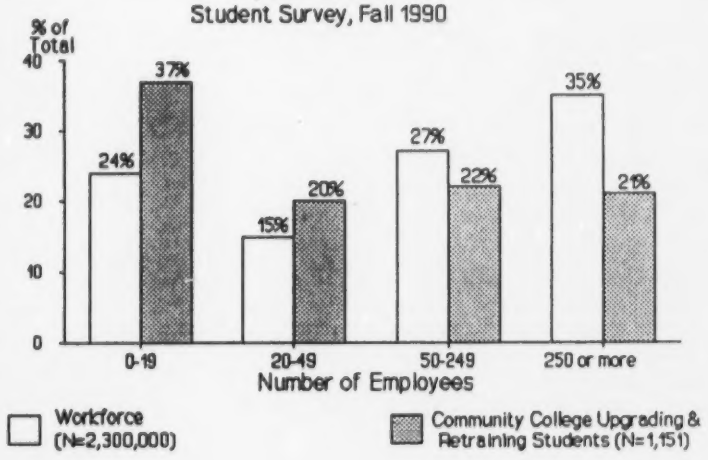
TABLE IV
Industry and Occupation of Community College Upgrading and Retraining Students Compared to the Washington State Workforce
Student Survey, Fall 1990

Nonagricultural Employment Share by Industry* (Number of Respondents)	% of Total Upgrading & Retraining	% in Workforce (1990)
Other Services (204)	20%	12.2%
Wholesale and Retail Trade (170)	16%	24.5%
Health Services (134)	13%	6.8%
Manufacturing (128)	12%	17.4%
Government/Education (128)	12%	18.5%
Transportation/Public Utility (70)	7%	5.2%
Finance, Insurance, Real Estate (74)	7%	5.6%
Business Services (64)	6%	4.5%
Construction (53)	5%	5.2%
Other (13)	2%	0.1%

* In addition, about four percent of the students enrolled to upgrade or retrain were employed in agriculture.

Community colleges in Washington served smaller firms at a higher rate than larger firms as shown in Figure 3. Those served at smaller firms (under 50) tended to be students with lower levels of education than those who worked at larger firms. Students in smaller companies tended to be looking for a career or job change while those in larger firms were looking for skills to use within the firm. This finding seems to confirm the small business fear that providing training for employees leads to employees leaving the company.

Figure 3
Upgrading and Retraining Students vs All Washington Firms
By Size of Firm
Student Survey, Fall 1990



WHY SEND EMPLOYEES FOR UPGRADE TRAINING?

Employers in the Borton interviews said the chief reason for sending employees to get training was increased competition in the market place which has lead to significant changes in the way business is conducted. One employer said:

> There is no question in my mind that if we want to compete with some of the European and Asian counties....American industry will be required to do things differently than we traditionally have done in the past.... We're being forced into a more international market which uses partnerships and team work to their advantage which is something the United States is a little behind on.

There is evidence that Washington employers are rapidly adapting Total Quality Management (TQM) strategies and changing the work environment such that the entry-level worker must have higher level basic and problem solving skills than in the past. Employers know these skills must be developed in their current workforce rather than gained solely by hiring younger newly-trained workers.

The employers in the Borton groups felt an obligation to remove barriers to the productivity of their workers. They felt responsible to provide appropriate training for employees when changes occur in processes or in technologies.

WHAT EMPLOYERS EXPECT

Employers who participated in the Borton study focus groups said they expected their employees to "take charge" of their own careers. One employer explained it as follows:

> Because the economy is changing so fast, technology is changing, and your own lifestyle may change ... you cannot depend on the company to take care of you; and it is mutual. The company can no longer ... depend upon you to always be there when they want you there.

Employers said they expected their employees to be willing and able to change and learn new things. They expected their employees to exercise the initiative and display the assertiveness needed to have the skills demanded today. Employers said:

> I tell people...when they report to work they're going to begin in a training process that lasts until they leave the company....You have to be able to continually acquire knowledge or learn how to apply it in a practical sense to stay.

> We also want to instill in people's thinking that it's not wrong to continue to improve your way of thinking and expanding your horizons. It's okay to go back to school and in fact we would like you to do that if you're interested in a career over here.

Employers said their workers would benefit from training in computer applications; business basics such as the competitive and consumer focus of business, the importance of quality and productivity, and business ethics; working in teams; treating customers with respect and resolving conflict; critical thinking; and the ability to transfer skills.

Employers had needs in addition to upgrading worker skills which they felt the community college could address. One need they identified was to help in recruiting well-trained entry-level employees from the immigrant and race and ethnic minority groups. Well-trained employees include those with solid basic skills, job-getting skills and adaptive skills (problem-solving, decision-making.) Employers also said the community colleges could provide training in sales and marketing, clerical and office automation, manufacturing processes, technical and trade skills, management and planning , information and data processing, health technologies, cultural diversity and affirmative action.

III: FINDINGS: SERVING THE STATE'S EMPLOYEES

About 24 percent of those enrolled in state and contract courses[2] at the 27 Washington community colleges in fall 1990 were enrolled to upgrade their current job skills or prepare for a career change. Most working students enroll part-time (67 percent were part-time students). As a consequence the upgrading and retraining students represent a smaller proportion of the full-time equivalent (FTE) students than of the student headcount. They represent about 12,900 FTEs or 13.5 of the total state and contract FTE in fall 1990.

The majority of the 37,500 upgrading and retraining students enrolled in fall 1990 took courses related to their current job (63 percent). The other 36 percent were enrolled to prepare for a career change or explore a career direction.[3] This analysis describes the differences between these two types of upgrading and retraining students: Job Upgraders and Career Changers.

PROFILE OF THE JOB UPGRADER

Sixteen percent of the community college enrollment or 25,200 students in fall 1990 enrolled primarily to upgrade skills for their current job. The typical upgrader was a 32-year-old white, female who worked full-time while taking classes. The two hypothetical employed students described below are typical of a student enrolled to upgrade current job skills.

Marian, a 28 year old white female, has been working as a full-time personnel assistant with a mid-sized family clinic for the past five years. Before enrolling at her current community college in fall 1990, Marian had already taken some courses at a business college. In fall 1990 she was enrolled in an evening five credit state-supported vocational course in personnel management. Marian did not receive any need-based financial aid nor was her tuition reimbursed by her company.

Marian is uncertain whether she will continue at the community college after fall term. She worries about meeting her family obligations, working and being a student. She has limited time to study at night or on the weekends. Assignments that require library work are especially difficult for her. Despite being successful at the business college she attended, she is now concerned about failing her course because of the number of years since she was last in school. Marian expects that her current employer will reward her training effort with a salary increase.

Rex, a 35-year-old white male, works full-time for an electronics manufacturing firm that employs about 170 people. He is taking a night time vocational course to upgrade skills at his current job. After completing the course, he does not plan to return to the college for several years. He figures that his current course work will increase his productivity, a high priority for his current employer. Rex's employer is paying for his course, provided he achieves at least a C grade.

Rex earns the lowest average wage of any of the individuals profiled. If Rex could change one thing about taking courses at the college, he would change time and place of his course. Since the course will benefit his company as much as himself, he thinks the course should be offered during work hours at his job-site.

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[2] Data are not available on the goals of all students in student-funded, self-supporting classes. However, many of the student-funded courses are aimed at serving the needs of employed adults such as courses on micro-computer applications and workplace issues such as AIDS.

[3] Most of the 5,300 students taking classes related to work and enrolled to explore a career direction said their courses were related to a career change. For this analysis, "explorers" who said their courses were related to career change were included with the other career change students. The few who said their courses were related to their current job were included with the upgrading students.

PROFILE OF THE CAREER CHANGER

Nearly 12,300 students, or eight percent of those enrolled in fall 1990 enrolled primarily to take courses which would prepare them for a career change. The two students described below are typical of students enrolled to change their jobs or careers.

Alice, a 32-year-old white female, has been a part-time employee of a tele-marketing firm for the past three years. She also takes care of her two children. Alice is bored with the routine of her job and is disappointed in the level of work and compensation given her skills, so she is planning to change careers altogether. She wants a job with better pay and more face-to-face contact.

She has been enrolled as a full-time student in an allied health program since last spring. The general education courses Alice had taken at a four-year college before her marriage will apply to her vocational program at the community college. While she took science courses last year, she is now enrolled in three courses in her new field of study. Alice had received a tuition waiver from the college this quarter, but has received no assistance from her current employer.

Craig works full-time at a small restaurant with fewer than 20 employees. He has been working there for two years. He likes the contact with customers at his current job but is unhappy with the evening and weekend work schedule. Craig is single, white and in his late twenties. Craig started taking classes in fall 1990. He plans to take courses again at the college in winter and spring quarters. He enrolled for one three credit state-supported course in business. Craig expects that this course may help in seeking a higher paying job. Even more importantly, he expects his new job to allow him more leisure time than his current employment. Craig paid the course tuition himself without aid from the college or his company.

WHY STUDENTS ENROLL

Survey respondents were asked to describe their reasons for enrolling at the community college. In response, most students (75 percent) selected two or more reasons for enrolling. A student who was taking courses for her current job often also saw the courses as related to a career change. Table V displays reasons for enrolling for the subset of the survey respondents that could be identified as upgraders or retrainers based on their responses to questions posed at registration (see Appendix C).

Table V
Upgraders and Career Changers by Reasons for Enrolling
Student Survey, Fall 1990

	Upgraders (204)	Career Changers (68)	Both (272)
To take courses related to current job	78%	22%	64%
To prepare for increase in job complexity	57%	31%	51%
To prepare for a career change	26%	82%	40%
To explore a new career direction	33%	54%	38%
To prepare for a new job somewhere else	27%	57%	34%
To prepare for a new job at current company	33%	16%	29%
To move from temporary to permanent work	10%	25%	14%

The higher the level of education completed by employed students, the more likely they were to say they enrolled in courses related to their current job while those with less education said they were preparing for new jobs or careers. Similarly, younger respondents were preparing for new jobs and careers while older workers were upgrading current job skills.

Getting paid what they think they are worth may be a motivator for pursuing upgrading or retraining. Nearly two-thirds of the survey respondents said that their salary was beneath their work skills. Only a quarter thought there was a good match with their salary and work skills. About 10 percent were uncertain about salary and work skills and 3 percent said they made more than their skills merited. Workers who saw their jobs as beneath their skill levels tended to be enrolled to prepare for work at another place of employment while those who assessed their work skills as appropriate for their job were in courses related to their current job.

EXPECTED PAYOFFS

The chief gains expected by upgrading and retraining students were personal satisfaction, followed by increased job responsibilities as shown in Table VI. Most expected the courses they were taking to play a direct role in meeting these expectations (64 percent), but others said the courses would have a more indirect benefit as shown in Figure 4.

Figure 4
Expected Role of Community College Enrollment for
Upgrading and Retraining Students Who Expected a Benefit
Student Survey, Fall 1990

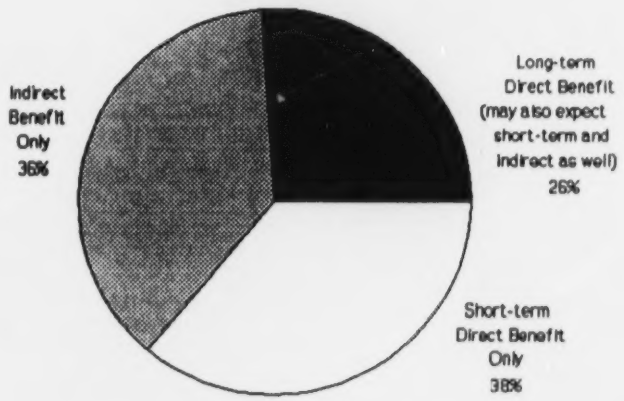

Indirect Benefit Only 36%
Long-term Direct Benefit (may also expect short-term and indirect as well) 26%
Short-term Direct Benefit Only 38%

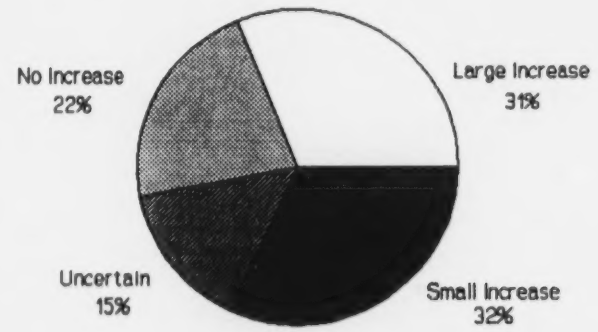
TABLE VI
Both Upgraders and Career Changers by Type of Gain Expected
Student Survey, Fall 1990

Type of Gain Expected	% Expecting Benefits	% of Those Expecting Benefits by Type of Benefit Expected: Direct Benefit Short-term	Direct Benefit Long-term	Indirect Benefit	None
Personal satisfaction	79%	41%	21%	37%	1%
Increased job responsibility	69%	40%	20%	38%	2%
Increased salary	68%	41%	23%	34%	2%
Increased job security	63%	38%	20%	40%	2%
Improved quality of life	61%	40%	20%	39%	1%
New position elsewhere	35%	32%	26%	41%	1%
New position at current firm	31%	25%	31%	41%	3%
Better life for children	30%	38%	17%	43%	2%
Start own business or practice	24%	25%	48%	27%	1%

Only about a third of the students expected promotions or new jobs as a result of their training and in those cases only about a third expected to see the promotion or new job in the near-term.

When asked how much increase the community college experience would lead to in terms of wages, the upgraders and career changers surveyed varied considerably in their response as shown in Figure 5. None of the respondents expected their wages to decline.

Figure 5
Expected Increase in Wages Resulting from Community College Enrollment for Upgrading and Retraining Students
Student Survey, Fall 1990

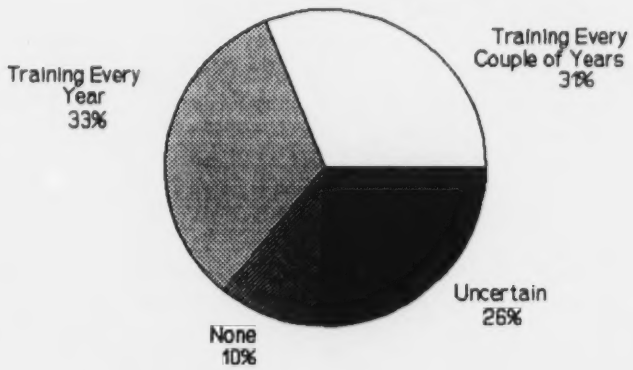


Respondents with lower current wages ($18,148 annual salary) expected larger salary increases as a result of their community college experience than their higher paid fellow students (the average salary of those expecting no increase was $27,627). Production and clerical workers were more likely than others to expect a salary increase (80 percent of each group expected a salary increase).

FUTURE TRAINING NEEDED

Currently enrolled upgrading and retraining students were asked to describe the extent to which they would need additional future training. Figure 6 shows that about 64 percent expect to continually seek retraining.

Figure 6
Extent to Which Currently Employed Students Expect to Need Additional Training
Student Survey, Fall 1990



Not all of that future training will occur at the community college, but given the demands of the 1.6 percent of the workforce already enrolled, community colleges will not lack for employed students.

Those enrolled in the community college and responding to the survey confirmed the aphorism that the more education a person gets the more education a person wants. Respondents who had completed more formal education saw a greater need for training in the future than those with less education. Of course, this pattern raises the issue of how to encourage those with a high need but less motivation to engage in upgrading or retraining.

IV. FINDINGS: SATISFACTION WITH UPGRADING AND RETRAINING

STUDENTS

Between the sixth and ninth week of the quarter students were asked to describe their level of satisfaction with the upgrading or retraining experience at the community college. Some in their first term of study were unable to give an evaluation, but students in a position to respond to the questions about college services provided useful information on the strengths and shortcomings of community college services from the student perspective.

About 90 percent of the respondents said they would recommend the community college to friends or co-workers while nine percent were uncertain. Students were most satisfied with the quality of instruction, equipment, usefulness of training and variety of courses offered. The lowest level of satisfaction was with financial aid and job search information, though not all upgrading and retraining students had experienced or needed these services as shown in Table VII.

TABLE VII
Student Satisfaction Ratings with College Services
Student Survey, Fall 1990

1 = very unsatisfied
2 = somewhat unsatisfied
3 = somewhat satisfied
4 = very satisfied

Service (% responding)	Mean	% Satisfied
Quality of instruction (96%)	3.4	88%
Access to up-to-date equipment (57%)	3.1	81%
Usefulness or relevance of training to current job (62%)	3.1	75%
Testing or assessment services (48%)	3.0	79%
Interaction with faculty outside of class (59%)	3.0	77%
Variety of courses offered (80%)	3.0	75%
Services for persons with disabilities (21%)	3.0	76%
Help with selecting courses (71%)	2.9	70%
Availability of classes at times I could attend (87%)	2.8	65%
Job search information (42%)	2.7	63%
Financial aid (34%)	2.6	55%

In their comments students described the lack of course availability as the greatest weakness in the community college offering. The issue of the lack of courses at night was most frequently mentioned. Typical of the comments were:

> I wish there were more graphics courses; also wish there were editing/writing classes available.

I could attend classes from 2:00 on if there were classes offered at these times.

My biggest problem is that I work from 9 to 6 p.m. The night class start sometimes at 5 or 5:30.

The quality of programs and courses and the registration process were concerns for one in five respondents:

I feel that the college could have a program designed for older working students re-entering college ... To have counselors and advisors that are listening to [older student's] concerns and fears.

Some -- not all -- courses are Mickey Mouse - little or no effort is required.

I would like to see a broader scope of technical classes as well as classes in exploring potential career areas.

The registration process is slow and very painful. It takes a very long time!

Registration day is difficult because classes fill so quickly. Only a small portion of people who want to enroll actually can do it.

Everything is great except the registration procedure. I have to choose between skipping classes or skipping work.

The quality of the courses, programs and faculty elicited the greatest response in terms of comments on strengths of the college. The following comments were typical:

Instructors usually have real job experience along with their academic preparation.

All of the instructors I have come across so far have been exceptional. They really seem to enjoy what they do and do it well.

[The college] serves as a good intermediate place of study before going on for masters in order to get back in the study habit and to test area of study.

Very practical applications are presented.

I appreciate the focus on improving skills for working adults.

EMPLOYERS

Employers in the Borton focus groups felt that community colleges really proved their worth in terms of the cost. Employers for whom the college had developed customized courses said the cost was very low in comparison with outside vendors or in-house educational development. Most employers, however, see even greater cost advantage in the state-supported courses taken by their employees. Typical of the comments from employers related to the bargain afforded by community colleges were the following:

Quite frankly going to the community college costs us a lot less than going to some other places for very similar training.

We know that it is a whole lot cheaper here at the community college than it is for us to teach [generic computer classes] ourselves, and it's even more expensive if we go to a vendor.

> Some of the reasons I re-train people is...it's a relatively cheap perk to offer people, especially community college type classes. Offer someone education and it always makes them more marketable if they leave or stay and if they stay you benefit from their newly-acquired knowledge.

Employers said that community colleges are capable of being flexible in their delivery of courses - offering day and evening sections if needed to accommodate rotating shifts, or short-courses or courses on-site. Colleges have shown their willingness to design courses around the employer's schedule. One employer summarized part of the discussion by saying:

> We identified that we had a problem with people writing technical reports. So we actually went to the community college and asked them if they would help us set up a technical writing class and they did. One of the teachers came in and worked with us, and tailored it to our needs and put on a three-month long quarter class for people in our company.

> I think I'd agree with everybody. I think they are the most willing bunch of people I've ever run across. They'll do everything they can to accommodate you if it's possible.

Employers said community college provided an avenue for training for their workers who needed English as a Second Language training or to complete a high school diploma. They also admired the colleges' ability to serve displaced homemakers and dislocated workers.

V. FINDINGS: BARRIERS TO UPGRADING AND RETRAINING

BARRIERS FOR STUDENTS

The research did not identify the barriers for those who did not attend the college. But the majority of those who did attend identified both institutional and personal barriers to participating in retraining efforts that may also apply to those who were unable to overcome these barriers to attending.

The most important barriers were "difficulty in scheduling courses and work" and "finances" (see Table VIII). Survey results indicate that one in four job upgrading and retraining students could benefit from additional advising or counseling about courses and student success strategies. Process matters such as registration and placement testing were barriers to about one in five students.

TABLE VIII
Institutional and Personal Barriers to
Enrolling at a Community College for Upgrading and Retraining
Student Survey, Fall 1990
(N=1,151)

Barriers	% of Total
Difficulty in scheduling courses and work	48%
Finances	42%
Family responsibilities	29%
Inconvenient course time/day	28%
Fear of failure	24%
Lack of confidence	22%
Lack of knowledge about courses and programs	20%
Difficult registration process	20%
Fear of trying something new	15%
Feeling too old	14%
Course prerequisites	13%
Lack of college support services (advising, counseling, etc.)	12%
College placement tests	12%
Childcare	11%
Transportation	11%
Lack of relevancy of the courses	11%
Lack of spouse or family support	10%
Inconvenient course location	9%
Employer's training and education policy	8%
Inconvenient course length (weeks, months quarters)	8%
Lack of personal interest	7%
Physical disabilities	3%

BARRIERS FOR EMPLOYERS

The summer 1990 employer survey found that 72 percent of all employers had not contacted any education or training provider to assist them with their training needs. About five percent had contacted a community college, the single most commonly used vendor, while four percent had contacted a vocational technical institute.

Employers said they had not contacted an educational or training institution because they:

1) Did not know who to call (40 percent).
2) Thought colleges lacked qualified instructors for their particular training needs (36 percent).
3) Thought that colleges lacked the required equipment or facilities for the training (30 percent).
4) Thought that training programs were not accessible to employees (29 percent).

Employers in firms smaller than 1,000 employees expressed more difficulty with items two through four than did employers at larger firms.

Most of the survey respondents who sought help from a community college (64 percent) said the college solved most of their training needs. Among those who said the community colleges did not solve all of their training needs, about a third said the college could not provide the training in the time span required, did not have enough qualified instructors, or did not offer training. Most employers also gave "other" reasons for not having their needs met, the most common of which was the failure of the college to provide the specific type of training needed.

Employers who participated in the Borton focus groups recommended that community colleges improve their upgrading and retraining by designating a single point of contact, being more entrepreneurial, providing instruction via alternative delivery methods, and providing quality instructors, instruction and services.

Need for a Single Point of Contact: Employers in the Borton focus groups recommended that the first problem - who to call - be addressed by designating a person to be in charge of upgrading and retraining with the authority and information needed to make fast decisions. Employers said:

> A lot of businesses do go to the community college. They get frustrated when they go...with the amount of bureaucracy that's involved in just trying to get someone to put a curriculum together....It's very difficult to deal with the educational institutions because nobody really knows whose in charge. I think it's frustrating for businesses. They want to deal with one person.
>
> One of the problems that I found...is whenever you deal with the bureaucracy, nobody is responsible. Nobody has the responsibility to say: "Let's do it. I'll take responsibility. I'll stick my neck out."

Entrepreneurial Focus: To employers an entrepreneurial focus includes knowing more about their clients. Companies do not want to waste employee time by having training geared to the wrong level. Colleges should do market research, anticipate needs, and then develop classes to meet the "market niches." Colleges should be knowledgeable about the products of "competitors." Colleges should advertise classes developed to meet employer and employee needs. Being entrepreneurial also means considering economic and community needs when determining which courses should be offered during times of limited resources. One employer summarized this idea as follows:

> I think that the educational institutions are a business. Their product is to serve both the community and the students. They have to market their abilities which they are not doing now. We have a work force that needs to be upgraded just to stay abreast of what's going on, what changes are occurring, and then institutions need to go out and market their abilities. And they need to put programs together that meet the business needs whether it be several small shops together to meet a common goal or whether it be a larger, heavy industrial company, but they need to market their abilities just the same as all of us.

Providing Quality Instructors, Instruction and Services: To the employers "good faculty" are teachers who keep current, are technologically astute, apply knowledge to the field, can inspire, and know how to teach. Since many faculty will need to teach at night or on the weekend, colleges need to recruit and reward these good faculty. Some employers favored the use of performance-based pay. "Good instruction" involves leading-edge instruction in terms of ideas, methodologies and philosophies as well as introducing students to the more commonly used and adopted perspectives. Businesses do not think the responsibility for assuring a quality faculty need rest solely with the college as evidenced by the following comment:

> When someone is teaching finance at the college, I think it ought to be the responsibility of the financial community to make sure that the person's skills and understanding of what's going on in the financial services area is very current. This should be a constant process with all fields. I think that people that are teaching engineering ought to be part of the same community of professionals as the people who are practicing it.

Employers said they see a need for focused assessment and placement for customized upgrading courses for employees. Companies think employees should be screened into classes and programs based on assessment measures. They see this sorting and screening process as part of the benefit of using community college services.

Alternative Delivery: Employers encourage colleges to use alternative delivery systems such as video telecommunications, computerized instruction, and other modes of self-paced learning. They also want credit for prior-learning to be available for employees. One employer said:

> Perhaps they can begin to restructure education in order to meet some of the issues that we've talked about. With the advent of the video equipment they could put the lectures or even the course work on video tapes.

TESTING HUMAN RESOURCE DEVELOPMENT THEORY

Human Resource Development (HRD) is the process of preparing people for a productive role in the labor force so they can contribute at the highest levels in producing goods and services (Nadler, 1979; Levitan, Mangum, & Marshall, 1982 as cited in Nolte, 1991). The theory postulates that workers will seek training under several circumstances:

* When there is a gap between job skill requirements and current skills of the worker.
* When training will have a positive influence on salaries, productivity, and quality of life. That is, when the opportunity costs are less than the future benefit.
* For specific training, when the employer pays for training costs. In theory the employee should accept lower wages given the benefit of employer paid training.
* For general training, when long-term benefits exceed opportunity costs.

This study found that a variance between job skill requirements and current skills did motivate some to participate in upgrading activities. That is, upgrading students felt there was a gap between their skills and the skills needed for the job. Retraining students, on the other hand, were not motivated to meet the skill demands of their current job. Those who were retraining tended to be working in jobs that they felt paid too little for the skills they possessed.

Consistent with HRD theory, the study also found that: (1) younger workers are more interested in upgrading and retraining than older workers, (2) more educated workers had higher wage expectations, and (3) workers did not recognize the changes taking place in the workforce.

The greatest future benefit students expected in reward for the opportunity cost of pursuing more education was personal satisfaction. Salary increases, increased productivity and quality of life were important, but lessor pay-offs were expected by the students. Those with the lowest wages expected the most in terms of wage benefits from their training, as consistent with the HRD theory.

POTENTIAL ACTION ISSUES

This research identifies five changes in community college policies, procedures or resource allocations that would have the greatest likelihood of benefitting the upgrading and retraining mission. Community college staff and representatives of employer and employee groups will need to discuss these opportunities for improvement, determine which should be addressed given limited resources or find additional resources to meet the needs.

ACCESS

The access issue relates both to addressing the overall level of service and the inequalities in who is served by the community colleges.

Underserved Workers

Various segments of the state's workforce do not participate in community college upgrading and retraining opportunities in proportion to their representation in the workforce. Many employees have other opportunities for upgrading and retraining. Professional workers, for example, typically rely on their associations for training activities. But the workers least likely to be at the community college, in addition to professional workers, were men, those with less than a high school education and older workers.

Service to those with Less than High School Education: Few upgrading and retraining students enroll in basic skills programs such as the Adult Basic Education (ABE) program or preparation for the high school diploma. A recent study of students from the ABE program in Washington community colleges showed that while 42 percent enrolled in the programs were employed, only 26 percent enrolled to improve their job skills (SBCCE, 1991). Workers who need literacy training appear to be an underserved population. Should community college or employers target this group for upgrading or retraining funds? The barriers for this group likely include financial constraints as well as fears related to the ability to succeed in school.

Service to Men: Women more than men participate in all aspects of community college education including upgrading and retraining. Currently men outnumber women in the workforce and are expected to do so until sometime in the first or second decade of the next century. The HRD theory provided no rationale for less participation by men than women, except that of generally higher salaries already being paid to men (thus less motivation for more training).

Before community colleges address this underservice, it will be important to determine if male workers receive less upgrade training than female workers when all vendors are taken into account. Men and women are employed in such different occupational areas and training requirements may be considerably different. Men may receive more on-the-job training or more training at sites other than the college. The men who responded to the survey, however, were not more likely than women to attend training from other vendors. If further research should indicate that male employees receive less upgrading then women employees, should they be targeted to increase their participation in upgrading and retraining at the colleges?

Service to Older Workers: Older workers will be increasingly important to firms as the pool of young workers shrinks, yet fewer workers over 44 are involved in upgrading or retraining at the community colleges. Should colleges target these older workers? Since older workers are more likely to need training to benefit their employer rather than their own career path, should employers be setting aside more training funds for their older workers?

Overall Level of Service

Should the community college serve more than five percent of the workforce at any one time? Of the working students who do enroll at the community college, should a larger proportion be gearing their education to upgrading and retraining at the college? Upgrading and retraining education already is central to the community college mission accounting for 24 percent of the students and 13.5 percent of the FTEs. That's larger than the basic skills function and equal in size to the entry-level preparatory function. Is it appropriate, given limited resources and strong demand in the other areas, to seek means of increasing the service to those who need to upgrade or retrain?

The service level question raises a larger public policy issue which the community colleges alone cannot address: Who should pay for upgrading and retraining the state's employers? How much and under what circumstances should the state underwrite such training? What is the employer obligation for funding the training? What is the employee obligation?

FUNDING THE UPGRADING AND RETRAINING MISSION

There are several indicators that suggest community colleges are serving fewer upgrading and retraining students today with their state general fund dollars than they have served in the past. Community colleges are serving fewer new part-time students in the 25 and over age group. Further, they are serving fewer vocational students. These studies did not evaluate the extent to which state-supported funding limits the ability of colleges to respond to the need for upgrading and retraining. Other analysis has shown, however, that as colleges make tough choices about which courses to offer given limited funds and growing student demand, they have cut from their schedule courses taken by upgrading and retraining students. Between fall 1986 and fall 1989 the number of night-time business technology, marketing and accounting classes has been cut from 719 to 642, an 11 percent cut. It is likely that at most colleges the number of courses has been reduced as the lesser of evils. The cuts likely do not reflect either a conscious effort to serve fewer working students or a reduction in demand for the courses.

Adding to the decline in service to upgrading and retraining students is the intense competition for space in general education courses in English, speech, math, social sciences, and physical sciences. These courses are typically filled by transfer and job preparation students before part-time upgraders and career changers have the opportunity to enroll. According to student comments, lack of course availability is especially disconcerting to those seeking a degree at night.

Can community colleges design more flexible funding systems that would allow state funds to provide more training for upgrading and retraining students without reducing the services to others? If a choice must be made between serving the transfer, basic skills, job preparation or retraining and upgrading student, should the current pattern of reducing service to the latter be continued? Are alternative funding formulas needed to encourage colleges to focus more resources on serving these students?

If the legislature funds additional new enrollment for the community colleges, what percent of those new dollars should fund spaces for upgrading and retraining efforts at the community colleges and how much should be used to address other enrollment pressures?

Most upgrading and retraining is funded by the state general fund allocation to community colleges? Is this appropriate? Should industry pay more for the training? Should employees pay more?

REMOVAL OF BARRIERS

One of the chief barriers to employer use of community colleges for retraining is lack of knowledge about community college customized and regular training programs. Employers are looking for an entrepreneurial effort on the community college's part to serve them and their employees. They also want a single point

of contact and decision-making for training. Are colleges in a position to respond to this employer demand? How can colleges do a better job of marketing their services?

Students said that the chief barriers to attending community colleges were conflicts between work and school and finance issues. A recent study of telecourse students in community colleges found that most were working adults who were addressing the work/school time conflict via video education. The courses available via video education, however, were limited primarily to general education courses rather than technical studies.

Should Washington community colleges attempt to remove the finance and work versus school conflict barriers? Should colleges encourage the use of tuition reimbursement plans for workers? Are the college billing procedures for such arrangements easy for small companies to use?

Do employers also have a responsibility in removing barriers related to finances and the work versus schooling time-crunch? Many employees enroll for long-term goals that may not have benefits for their current employers. Can all employers afford to provide the same level of financial assistance for schooling they see as related to the job?

Some students expressed a fear of failure, a lack of confidence and a lack of childcare as barriers to enrolling. Should the community colleges provide services to address these concerns that worry some, but not all, of the older working students?

ENHANCING SUCCESS

Most employers and upgrading and retraining students were positive about the benefit of their community college experience. Some students were less positive about financial aid and job search services. Are these services geared as much to working adults as to traditional-aged full-time students? Should the colleges review how best to provide these services for the upgrading and retraining students seeking them? The majority of working students have no need for either financial aid or job search assistance.

Increasing flexibility in terms of course availability, especially in the afternoon and evening, should result in increased student success (and possibly access). Working students in the Borton focus groups said they would rather take day time classes two days a week for longer periods than five days a week for shorter periods.

Should colleges review their processes for registration, testing and advising students with the working student in mind? Can the employer-college partnership include offering some of these services at the work site? Nearly half the upgrading and retraining students were tested. Do they receive advising geared to a working student from their test results?

Employers feel that colleges could enhance the quality of training by providing focused assessment and class placement for employed students. They think it is difficult and yet critical to maintain a quality faculty who are willing to work in the evening and on weekends. Can colleges do more to assess and place upgrading students and to reward the faculty who meet employer definitions of quality faculty?

COOPERATION

Currently upgrading and retraining at the community college functions much like the other areas of transfer, basic skills and entry-level preparation. The chief "client" is the student. If an employer is encouraging or financially supporting that enrollment, it is not known to the college. In the customized training programs however there are three beneficiaries - the employee, the employer, and the economic development of the state and community. Do colleges need to make any changes to assure that job upgrading and retraining meets the needs of not only students, but employers and regional or state economic development?

What assistance can colleges garner in providing upgrading and retraining from state government, which funds the bulk of the training, and from the private and non-profit sector, which needs and benefits from the training. What will the relationship of the Workforce Training and Education Coordinating Board (Senate Bill 5184) be to the upgrading and retraining issues faced by the community colleges? What comparable mechanisms can be created at the local level?

Employers in the Borton focus groups familiar with the advisory committee process used by community colleges for vocational programs felt that the responsibilities of advisory groups should include lobbying, job placement, evaluation, assistance in review of the curriculum, locating classrooms, developing internships and other hands-on and part-time work experiences, and soliciting funds and equipment. Some said the groups on which they served met only once a year and could not therefore perform these functions.

Employers said that advisory groups must be very active and seek non-member feedback as companies are changing so rapidly that it is difficult for a small group to reflect all the needs. Others said that the companies they represented had not made advisory committee service an important company function. Should colleges revamp their approach to advisory groups? How can companies assure that their members on the committee see such service as a high priority for the company?

The same employers also recommended that colleges and businesses work together on joint ventures such as development of video-based courses, pre-employment programs for recruiting employees, mentoring programs for faculty and students, and special programs for dislocated workers. Under the auspices of Senate Bill 6411 (Investment in Human Capital Study) several Washington community colleges are participating in six joint venture projects with industry and labor along the lines recommended. Each project received about $100,000 in state general funds to pilot the joint ventures. How can all colleges form partnerships with labor and industry to respond to these recommendations?

FUTURE RESEARCH ISSUES

One of the best measures of student outcomes is to ask former students the extent to which they achieved what they expected from the community college, both immediately after leaving and in the long-term. Student expectations vary greatly and thus no single measure such as promotions or wage increases will accurately indicate the outcome of training.

The process of asking students both in the short-term and the long-term will be quite expensive and intrusive. Thus other less accurate measures may be needed for the years when comprehensive surveys cannot be funded. Such measures might include a wage comparison for those who completed upgrade and career change education versus others. This measure would be meaningful for about 70 percent of those attending the college. Such a measure could be used to distinguish the characteristics of more or less successful upgrading students.

Since the employer is also a "client" of job upgrading and retraining, should the outcomes for the business also be measured? This analysis has not identified the outcomes expected by businesses. Should a similar study be undertaken to determine their expectations and methods to measure such outcomes in the future?

One of the issues raised by this study was whether or not male workers are underserved in terms of all types of upgrading and retraining. They are underserved at the community college, but a broader based study is need to determine if they are underserved by other providers as well.

This research did not identify the extent to which students retraining via programs such as dislocated worker and private industry council programs are served at community colleges. Future research should be directed to comparison of their outcomes with the outcomes of other working students.

CONCLUSIONS

By examining the needs, satisfactions and characteristics of both employers and working students, this study provides information about the upgrading and retraining function as it currently exists at Washington community colleges. It raises issues that require conversation not only among those at the community colleges but with labor, industry and the legislature.

Washington community colleges are devoting considerable resources to the upgrading and retraining of Washington's workforce. As many students were enrolled for upgrading and retraining in fall 1990 as were enrolled to prepare for new jobs. About 13.5 percent of the total state and contract FTEs were devoted to the upgrading function. In addition, community colleges serve transfer students who are also upgrading their job skills or retraining for new jobs.

It is unclear as to whether or not the present level of service is appropriate to state needs now or in the future. What is clear is that community colleges serve some populations at a higher rate than others. Undeserved groups include men, workers with less than a high school education, and older workers.

Although community colleges have probably not consciously chosen to do so, evidence suggests that their response to meeting the pressing demands for seats in classes -- demands that far exceed the state general funding to offer classes -- has been to increase academic and basic skills education at the expense of both entry-level job training and upgrading and retraining. This study raises the issue of what role upgrading and retraining should have in the total community college mission. It is likely that more conversation is needed to determine how the college's limited resources should be allocated between the various missions of the college.

Upgrading and retraining is not the sole responsibility of the community college, however. A major policy issue raised throughout this report is the appropriate role of industry, labor and government in upgrading and retraining. The role question relates to the issue of who pays for the training. It is also central to the question of who is the "client" of the community college. It is possible that the success of advisory committees will remain limited or subject to the luck of the draw in terms of industry and labor commitment until the role question has been addressed. This is an issue that must be addressed by all parties jointly. It is likely that the new Workforce Training and Education Coordinating Board (Senate Bill 5184) can provide the forum for this conversation.

Community colleges are seen by students and employers alike as flexible institutions which can address the needs of employed students. As one employer said: "The quality is every bit as good and sometimes better than what we can do and a lot [of the time] more timely. They're more responsive to our needs sometimes than we can be to our own [needs]..." To continue to meet those needs, colleges will be challenged to provide more education using video telecommunications, more evening and weekend courses, more customized training and instruction at the work site.

The state's industries are making major changes in the processes to assure their international competitiveness. Manufactures have adopted statistical process control approaches. Total Quality Management (TQM) approaches are mentioned by employers in all sectors. There are numerous excellent examples of how individual colleges have made changes to keep up with the needs of employers. But an issue raised by this study is the extent to which the community colleges, as a system, need to consider changes in their processes (registration, course scheduling, delivery mechanisms, student services) to meet the needs of the changing workforce.

REFERENCES

Borton, Nancy. **An Assessment of the Job Upgrading/Retraining Education Offered in the Community Colleges in Washington State,** 1991 Ph.D. dissertation, University of Washington.

Nolte, Walt. **The Impact of Working Adult Students on the Washington Community College System,** 1991 Ph.D. dissertation, University of Texas.

Office of Financial Management. **Investment in Human Capital Study: Findings**, December 1990. Olympia, Washington.

Washington State Board for Community College Education. **Analysis of Vocational Program Trends: 1983 to 1989**, unpublished, October 1990. Olympia, Washington.

Washington State Board for Community College Education. **Vocational Outcomes in Washington Community Colleges: Baseline Report**, October 1990. Olympia, Washington.

Washington State Board for Community College Education. **Adult Basic Education in Washington Community Colleges: A Follow-up Study,** March 1991. Olympia, Washington.

APPENDIX A

COMMUNITY COLLEGE JOB UPGRADING/RETRAINING SURVEY

As part of his dissertation study, Walt Nolte, designed and administered The Community College Job Upgrading/Retraining Survey in November of 1990. The survey results, along with demographic information from the SBCCE Student Management Information System, provided the basis for the profile of upgrading and career students and the student evaluation of the expected outcomes and satisfaction with community college education.

Questionnaire

The eight page questionnaire was designed based on previous SBCCE survey instruments, a literature review, and results from the Borton study. The questionnaire was pilot tested with a group of employed students at Tacoma Community College. The final instrument took about 15 minutes to complete and was administered during the class session by staff hired specifically for that purpose.

A copy of the questionnaire is attached. The main areas covered in the instrument were:

Reasons for enrolling
Reasons students enrolled at a community college
Expected outcomes from courses
Barriers to enrolling
Measures of student satisfaction
Comparisons with other training experienced
Future needs related to training
Current job status
Tuition reimbursement status
Relationship of salary and work

No background questions were asked because it was expected that such information could be obtained from matching survey responses with data collected at registration. Students were advised, both in writing and orally, of this use of the social security number they provided on the questionnaire at the time of the administration of the survey.

Survey Sample Frame

The sample for this survey was drawn from all students enrolled in courses identified as serving employed students. From six to twelve classes were identified for the sample by administrators at eight community colleges:

Big Bend Community College
Edmonds Community College
Highline Community College
North Seattle Community College
Skagit Valley Community College
South Puget Sound Community College
Spokane Community College
Tacoma Community College

Each college has a history of providing educational services to employed students and a reputation for providing training services to private sector business and industry. These colleges represent the mix of all community colleges in terms of urban, suburban, and rural settings, size, and location.

Each college was asked to survey 125 students, but due to differences in the size of colleges, the responses by college generally exceeded this norm. Administrators were aided in the course selection by a computer program which pulled student characteristics information and displayed the courses most likely to contain upgrading and retraining students. The program also provided information on the mix of such courses in terms of day versus evening, and vocational, academic or basic skills mix.

Administration

Staff at each of the eight colleges administered the surveys to 1,151 students during the sixth through the eighth week of fall quarter 1990. Campus staff followed a common procedure to contact the faculty and gain agreement to use class time for the survey. A single individual administered all surveys and used a prepared script to announce the survey process and answer common questions. Only those students who said they were employed and enrolled to improve their job skills or prepare for a career change were asked to complete the questionnaire.

Students who wanted a copy of the survey results were asked to stop by the Dean's office in June of the coming year to obtain copies.

Students were asked to provide their social security number on the survey form for use in matching with the SBCCE Student Management Information System (SMIS) database. About nine percent of the respondents failed to provide a number and another seven percent provided numbers which did not match those in the registration files for the quarter.

SBCCE staff completed data entry of all surveys using a locally designed data entry program which disallows responses outside the range of those allowed on the questionnaire. SBCCE matched the valid social security numbers from the survey forms with the SMIS database to provide information on enrollment patterns and demographics. SBCCE also matched those same students with he Employment Security wage files to gather information on the student's salary.

Additional Data

In addition to survey results, the analysis of upgrading and retraining students was partly based on data from two other sources:

* Information provided by survey respondents at the time of registration. This information included student purpose for attending, planned length of enrollment, current job status, race, gender, types of courses in which the student enrolled.

* Information on student job status as of four months earlier related to an estimated annual salary and hours of work based on a match of social security numbers with the unemployment insurance data files maintained by the Washington State Employment Security Department.

Data from both sources were matched to the survey responses using the social security numbers provided by survey respondents. The survey form included an explanation of the use that would be made of the social security number if provided. Of the 1,151 students who completed the survey, 109 or 9.5 percent left the social security number blank. Additionally 84 provided numbers that did not match with the registration data. Thus the above data were not available for seventeen percent of the survey respondents.

Defining the Degree of Certainty in Using these Survey Findings

Factors Influencing Certainty of Findings

For many the first and only factor that comes to mind when considering the degree of certainty attached to findings from a survey is sampling error. Sampling error refers to the degree to which the **sample represents** the **total group or population** for which information was sought. But, there are three other factors which are important in determining the degree of certainty of survey findings:

* Measurement Error: The degree to which the **questions asked truly measures** what the researcher intended.

* Non-Coverage: The degree to which the **entire population had** an **opportunity to be included** in the sample.

* Non-Response Bias: Bias created if the answers from **non-respondents** were **likely to differ** considerably **from respondents** and the number of non-respondents was large enough to impact the findings.

All surveys have some degree of uncertainty - that is the concern that findings do not represent the beliefs, attitudes, opinions or behaviors of the population studied. If uncertainty is low, the findings are far more useful. As a consequence, researchers attempt to control the four factors mentioned above to assure the highest level of certainty possible given the resources available to conduct the study.

In the case of this study, findings from The Job Upgrading/Retraining Survey are regarded as fairly high in certainty because the researchers were able to minimize bias and error. Nevertheless some uncertainty remains due primarily to sampling error and non-coverage.

Measurement Error

The following factors helped reduce uncertainty regarding measurement:

* Nolte had extensively pilot-tested the questionnaire with students at his community college.

* The questionnaire contained mostly standard questions which had been previously pilot-tested and used in a variety of other settings.

* Some questions were asked in several ways.

* The survey was short and well structured.

* Respondents did not have to work hard. Their interest was maintained as they were led through the survey.

For some questions, respondents were asked to indicate if each response did or did not apply to them. Often a response was left blank. **Analysis of this survey assumed a blank response to mean "does not apply"**. (If this assumption is false, the level of measurement error could be considerable.)

Sampling Error

Courses were used as a basis for sampling students. How well these students represented all upgrading and retraining students depended on the courses selected. Deans of Instruction or vocational deans at each campus selected courses which they regarded as representative of courses where upgrading and retraining students were most likely to enroll. Course profile data was provided to assist the deans in their selection. While this selection process was not as free from error as random selection, it is assumed that the judgements made resulted in minimal error.

The courses based cluster sampling technique does not allow for exact specification of sampling of error. **Based on sample size and assumed representative courses, the sampling error is assumed to be not greater than plus or minus five percent.**

Non-Coverage

Not all upgrading and retraining students had an opportunity to be in the survey sample and thus there is uncertainty in the findings due to non-coverage. Specifically, those that did not have an opportunity to be in the sample included:

* Any student in a selected course when the faculty could afford fifteen minutes of class time to administer the survey.
* Upgrading and retraining students in the following courses:

    * English-as-a-Second-Language (ESL).
    * Sheltered workshops.
    * Adult Basic Education (ABE).

    These students were excluded because of the reading skill required to complete the survey. Students in developmental studies courses were included, however, and the results can be said to fairly represent upgrading and retraining students above the literacy training level.

* Upgrading and retraining students in colleges not included in the study. It was assumed that the participating colleges adequately represented the community college system.

For some analysis, findings were based on a combination of survey data and registration data. SBCCE matched the two sources of data based on social security numbers supplied by respondents. Not all students supplied their social security numbers. Thus findings based on registration and survey data can be regarded as high in certainty only for those who supplied their social security numbers.

Non-Response Bias

In this study, the non-response rate is unknown as the number of upgrading and retraining students in each course was unknown. Students in the course were asked, orally and at the start of the survey to determine if they qualified to complete the survey. Only those who said they were currently employed and enrolled to improve their job skills or prepare for a career change were asked to complete the survey. It is possible that some who qualified did not respond. It is also possible that some non-qualifying students completed the survey.

Non-response may have also resulted from upgrading and retraining students not being in class on the day of the survey. Given the timing of the survey early in the quarter and the ease of completing the instrument, it is likely that most upgrading and retraining students were present and most responded to the survey. Thus, this in-class survey, like most of that type, probably had considerably less non-response bias than mail or phone surveys of similar populations.

Conclusion

The findings of this survey can be thought of as fairly accurate in representing the opinions, beliefs, attitudes and behaviors of upgrading and retraining students above the literacy training level in Washington community colleges.

COMMUNITY COLLEGE

JOB UPGRADING/RETRAINING

SURVEY

November 1990

Washington Community Colleges:

The
Smart
Investment

JOB UPGRADING/RETRAINING SURVEY

Are you currently employed? Are you enrolled in college to improve your job skills or prepare for a career change? If your answer to both questions was YES, we would appreciate your help by completing this survey about students enrolled to improve job skills.

Your answers are a valuable source of information to help Washington community colleges improve instruction and support services for working students. Your social security number is needed to match to the demographic information you have already provided the colleges. Your responses will remain confidential.

Name (optional): _____

Social Security Number: _____-_____-_____

Q-1. How would you describe your course(s) in relation to your current job? (Circle the number that best applies to you--one only.)

1 STRONGLY RELATED TO JOB
2 SOMEWHAT RELATED TO JOB
3 NOT RELATED TO JOB
4 UNCERTAIN

Q-2. Which of the following apply to you as a reason for enrolling at your community college?

		Applies	Does Not Apply
		↓	↓
1	TO TAKE COURSES RELATED TO CURRENT JOB	1	2
2	TO PREPARE FOR A NEW JOB AT EXISTING PLACE OF EMPLOYMENT	1	2
3	TO PREPARE FOR A NEW JOB AT ANOTHER PLACE OF EMPLOYMENT	1	2
4	TO PREPARE FOR A CAREER CHANGE	1	2
5	TO EXPLORE A NEW CAREER DIRECTION	1	2
6	TO PREPARE FOR INCREASE IN JOB COMPLEXITY	1	2
7	TO MOVE FROM TEMPORARY WORK INTO A PERMANENT CAREER	1	2
8	OTHER _____ (Please specify)		

Q-3. Are there changes in your place of employment requiring you to upgrade or retrain?

		Applies	Does Not Apply
		↓	↓
1	NO CHANGES	1	2
2	COMPANY IS BEING EXPANDED	1	2
3	COMPANY IS BEING DOWNSIZED OR LIQUIDATED	1	2
4	COMPANY HAS BEEN ACQUIRED OR MERGED	1	2
5	CHANGE IN MAJOR CUSTOMERS	1	2
6	CHANGE IN MAJOR PRODUCTS OR SERVICES	1	2
7	CHANGE IN COMPANY OWNERSHIP OR MANAGEMENT	1	2

		Applies	Does Not Apply
		↓	↓
8	INCREASED COMPETITION FROM OTHER FIRMS	1	2
9	CHANGES IN COMPANY TECHNOLOGY	1	2
10	CHANGES IN COMPANY LOCATION	1	2
11	COMPANY IS BEING CLOSED AND NO OTHERS REQUIRE MY SKILLS	1	2
12	COMPANY'S MAJOR CUSTOMER(S) REQUIRES TRAINING AT OUR FIRM	1	2
13	OTHER _____ (Please specify)		

Q-4. Why did you decide to go to this community college?

		Applies	Does Not Apply
		↓	↓
1	TYPE OF COURSES AND PROGRAMS	1	2
2	RECOMMENDED BY EMPLOYER	1	2
3	RECOMMENDED BY CO-WORKERS	1	2
4	CONVENIENT LOCATION	1	2
5	CONVENIENT COURSE TIME	1	2
6	AFFORDABILITY	1	2
7	OTHER _____ (Please specify)		

Q-5. What are your future expectations regarding your current or planned course(s)?

		Applies	Does Not Apply
		↓	↓
1	INCREASED JOB SECURITY	1	2
2	INCREASED JOB RESPONSIBILITY	1	2
3	INCREASED SALARY	1	2
4	NEW POSITION AT EXISTING PLACE OF EMPLOYMENT	1	2
5	NEW POSITION WITH ANOTHER EMPLOYER	1	2
6	START OWN BUSINESS OR PRACTICE	1	2
7	IMPROVED QUALITY OF LIFE	1	2
8	PERSONAL SATISFACTION	1	2
9	BETTER LIFE FOR CHILDREN	1	2
10	OTHER _____ (Please specify)		

Q-6. Based on what you have learned in your classes so far, do you think your community college experience will help you meet these expectations?

		Applies	Does Not Apply
		↓	↓
1	YES, IMMEDIATE BENEFIT	1	2
2	YES, LONG TERM BENEFIT	1	2
3	INDIRECT BENEFIT	1	2
4	NO BENEFIT	1	2
5	UNSURE	1	2

Q-7. How much impact do you expect your community college experience to have on your wages? (Circle the number that best applies to you--one only.)

1 LARGE INCREASE
2 SMALL INCREASE
3 NO INCREASE
4 DECLINE
5 UNCERTAIN

Q-8. Did you have to overcome any of the following to enroll in community college?

	INSTITUTIONAL BARRIERS	Applies ↓	Does Not Apply ↓
1	DIFFICULTY IN SCHEDULING COURSES AND WORK	1	2
2	EMPLOYER'S TRAINING AND EDUCATION POLICIES	1	2
3	INCONVENIENT LOCATION OF COURSES	1	2
4	LACK OF RELEVANCY OF COURSES	1	2
5	INCONVENIENT LENGTH OF COURSES (WEEKS, MONTHS, QUARTERS)	1	2
6	INCONVENIENT TIME OR DAY OF COURSES	1	2
7	LACK OF COLLEGE SUPPORT SERVICES (ADVISING, COUNSELING, ETC.)	1	2
8	DIFFICULT REGISTRATION PROCESS	1	2
9	LACK OF KNOWLEDGE ABOUT COURSES AND PROGRAMS	1	2
10	COLLEGE PLACEMENT TESTS	1	2
11	COURSE PREREQUISITES	1	2
12	OTHER _____ (Please specify)		

Which barrier was the greatest problem for you? _____ (Number from above)

Q-9. Did you have to overcome any of the following in order to attend community college?

	PERSONAL BARRIERS	Applies ↓	Does Not Apply ↓
1	LACK OF CONFIDENCE	1	2
2	FEAR OF FAILURE	1	2
3	FEELING OF BEING TOO OLD	1	2
4	LACK OF PERSONAL INTEREST	1	2
5	FAMILY RESPONSIBILITIES	1	2
6	LACK OF SPOUSE OR FAMILY SUPPORT	1	2
7	FEAR OF TRYING SOMETHING NEW	1	2
8	PHYSICAL DISABILITIES	1	2
9	CHILDCARE	1	2
10	FINANCES	1	2
11	TRANSPORTATION	1	2
12	OTHER _____ (Please specify)		

Which barrier was the greatest problem for you? _____ (Number from above)

Q-10. In general, how satisfied are you with your community college with regard to each of the following areas?

		Very Unsatisfied	Somewhat Unsatisfied	Somewhat Satisfied	Very Satisfied	Does Not Apply
		↓	↓	↓	↓	↓
1	QUALITY OF INSTRUCTION	1	2	3	4	5
2	HELP WITH SELECTING COURSES .	1	2	3	4	5
3	INFORMATION ON CONDUCTING A JOB SEARCH	1	2	3	4	5
4	VARIETY OF COURSES OFFERED . .	1	2	3	4	5
5	USEFULNESS OR RELEVANCY OF TRAINING TO CURRENT JOB . .	1	2	3	4	5
6	AVAILABILITY OF CLASSES AT THE TIMES I COULD ATTEND . .	1	2	3	4	5
7	INTERACTION WITH FACULTY OUTSIDE OF THE CLASSROOM . .	1	2	3	4	5
8	ACCESS TO UP-TO-DATE EQUIPMENT	1	2	3	4	5
9	SERVICES FOR DISABLED	1	2	3	4	5
10	TESTING OR ASSESSMENT SERVICES	1	2	3	4	5
11	FINANCIAL AID	1	2	3	4	5

Q-11. Based on what you have learned in your course(s), do you expect your community college experience to increase your on-the-job productivity?

1 YES (go to Q-12)
2 NO (skip to Q-13, next page)
3 UNSURE (skip to Q-13, next page)

Q-12. Will your work productivity be increased in the following areas?

		Applies	Does Not Apply
		↓	↓
1	ABILITY TO WORK "SMARTER NOT HARDER"	1	2
2	ABILITY TO WORK WITHOUT ERRORS	1	2
3	ABILITY TO WORK BETTER WITH CO-WORKERS	1	2
4	BETTER KNOWLEDGE OF JOB RESPONSIBILITIES	1	2
5	ABILITY TO WORK AS A PART OF A TEAM	1	2
6	ABILITY TO WORK WITH LESS SUPERVISION	1	2
7	ABILITY TO SUPERVISE OTHERS BETTER	1	2
8	SHORTER TURN-AROUND TIME OF PRODUCT OR SERVICE . . .	1	2
9	ABILITY TO BE CREATIVE, FLEXIBLE, OR PROBLEM SOLVE .	1	2
10	ABILITY TO READ AND WRITE EFFECTIVELY	1	2
11	ABILITY TO LEARN NEW SYSTEMS OR PROCEDURES	1	2
12	ABILITY TO MAKE PRESENTATIONS	1	2
13	ABILITY TO USE MATH AT WORK	1	2
14	ABILITY TO MAKE DECISIONS INDEPENDENTLY	1	2
15	OTHER _____ (Please specify)		

Q-13. Other than high school, have you been involved in other training and education programs?

1 NO (skip to Q-15)
2 YES

Q-14. If you have been involved in other training and education programs, how would you compare your experience to the community college? (Select 4 if you had not participated or cannot compare the item.)

		Community college experience was:			
		WORSE	ABOUT SAME	BETTER	DOES NOT APPLY
		1	1	1	1
1	EMPLOYER SPONSORED TRAINING	1	2	3	4
2	MILITARY	1	2	3	4
3	PRIVATELY SPONSORED SEMINARS AND WORKSHOPS	1	2	3	4
4	FORMAL EDUCATION	1	2	3	4
5	OTHER _____ (Please specify)				

Q-15. Do you see yourself as continually needing training in the future? (Circle the number that best applies to you--one only.)

1 YES, EVERY YEAR
2 YES, EVERY COUPLE OF YEARS
3 NO
4 UNCERTAIN

Q-16. Do you expect to attend to a four-year institution in the next five years? (Circle the number that best applies to you--one only.)

1 NO (skip to Q-18, next page)
2 NO, ALREADY HAVE A FOUR YEAR DEGREE (skip to Q-18, next page)
3 YES, TO WORK TOWARDS A FOUR YEAR DEGREE
4 YES, FOR CONTINUING EDUCATION
5 UNSURE

Q-17. If you expect to transfer, what institution do you plan to attend? (Circle the number of the institution that you are most likely to attend next--one only.)

1 THE EVERGREEN STATE COLLEGE
2 WESTERN WASHINGTON UNIVERSITY
3 CENTRAL WASHINGTON UNIVERSITY
4 EASTERN WASHINGTON UNIVERSITY
5 WASHINGTON STATE, MAIN CAMPUS

6 WASHINGTON STATE, TRI-CITIES
7 WASHINGTON STATE, VANCOUVER BRANCH
8 UNIVERSITY OF WASHINGTON, MAIN CAMPUS
9 UNIVERSITY OF WASHINGTON, TACOMA BRANCH
10 UNIVERSITY OF WASHINGTON, BOTHELL/WOODINVILLE BRANCH
11 PRIVATE COLLEGE IN WASHINGTON
12 OUT-OF-STATE

Q-18. What is your approximate start date at the 4-year institution? (Select one only.)

1 ALREADY ENROLLED
2 WINTER OR SPRING 1991
3 SUMMER OR FALL 1991
4 WINTER OR SPRING 1992
5 1992-93 ACADEMIC YEAR
6 1993-94 ACADEMIC YEAR
7 1994-95 ACADEMIC YEAR
8 NOT SURE

Q-19. Would you recommend the community college to your friends, co-workers, or acquaintances?

1 YES
2 NO
3 UNCERTAIN

Q-20. If you could go back, knowing what you now know, would you still attend this community college?

1 NO
2 YES
3 UNCERTAIN

Q-21. What is the title of your current job (also describe duties)?

TITLE_____

DUTIES_____

Q-22. How would you describe the level of your job in relationship to your skills? (Circle the number that best applies to you--one only.)

1 JOB IS DEFINITELY BENEATH MY SKILL LEVEL
2 JOB IS SOMEWHAT BENEATH MY SKILL LEVEL
3 JOB IS APPROPRIATE FOR MY SKILL LEVEL
4 JOB IS TOO ADVANCED FOR MY SKILL LEVEL
5 DON'T KNOW

Q-23. How many people are employed where you work?

1 FEWER THAN 20 STAFF
2 20 - 49 STAFF
3 50 - 249 STAFF
4 250 OR MORE STAFF

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Q-24. How long have you been employed at your current place of work? (Circle the number that best applies to you--one only.)

1 LESS THAN ONE YEAR
2 ONE TO THREE YEARS
3 FOUR TO FIVE YEARS
4 MORE THAN FIVE YEARS
5 DON'T KNOW

Q-25. What is the nature of the business of your current employer? (Circle the number that best applies to you--one only.)

1 AGRICULTURE, FORESTRY, OR FISHING
2 MINING
3 CONSTRUCTION
4 MANUFACTURING
5 TRANSPORTATION, COMMUNICATION, ELECTRIC, GAS, OR SANITARY SERVICES
6 WHOLESALE TRADE
7 RETAIL TRADE
8 BUSINESS, LEGAL, OR SOCIAL SERVICES
9 HEALTH OR EDUCATIONAL SERVICES
10 FINANCE, INSURANCE, OR REAL ESTATE
11 CONSUMER SERVICES
12 PUBLIC ADMINISTRATION
13 OTHER _____
(Please specify)

Q-26. Who paid the tuition or fees for the course(s) in which you are currently enrolled? (Circle the number that best applies to you--one only.)

1 100% EMPLOYER PAID
2 PARTIAL EMPLOYER PAID, PARTIAL SELF-PAID
3 100% SELF-PAID
4 COLLEGE FINANCIAL AID PROGRAM
5 SELF-PAID AND COLLEGE FINANCIAL PROGRAM
6 A COMBINATION OF SELF, EMPLOYER, AND FINANCIAL AID
7 OTHER _____
(Please specify)

Q-27. Did you receive financial assistance from any source for textbooks, supplies, or other educational costs?

1 YES
2 NO
3 UNCERTAIN

Q-28. How would you describe your current salary in relationship to your work skills? (Circle the number that best applies to you--one only.)

1 SALARY IS DEFINITELY BENEATH MY SKILL LEVEL
2 SALARY IS SOMEWHAT BENEATH MY SKILL LEVEL
3 SALARY IS APPROPRIATE FOR MY SKILL LEVEL
4 SALARY IS SLIGHTLY MORE THAN MY SKILL LEVEL
5 SALARY IS DEFINITELY HIGHER THAN MY SKILL LEVEL
6 DON'T KNOW

Q-29. If your company has a tuition reimbursement program, please describe:

Q-30. Please use the space below to discuss the strengths or weaknesses of the community college programs and services.

Thank you for your assistance.

c:\files\lort\reports\surv91

APPENDIX B

FOCUS GROUP METHODOLOGY

As part of her dissertation study, Nancy Borton, conducted six focus groups in February and March of 1990 with upgrading and retraining students and six with employers. The focus group participants were selected from contacts at six colleges which represent the community college system. This Appendix describes the focus group methodology for the employer focus groups.

Using Focus Groups for Outcomes Research

Focus group interviews differ from individual interviews or surveys in several regards. The group provides a safe atmosphere in which the output is often more than the sum of individual ideas due to the creative group dynamic. The data gathered are often richer and deeper than obtainable by survey and often includes items that would have been missed entirely when using a structured questionnaire. One selects a focus group methodology when one wants to know particulars in depth. If the goal is to know what percent of a population believes, thinks or feels a certain way, a different method should be used.

In this case, replication logic was used. That is, the same questions were asked at the six sites. Nancy Borton looked for core concepts, themes, patterns of responses, structures, and behaviors that where shared among the groups. Common findings increase the ability to apply these findings to other settings. The results are said to be "fitting" for application to similar employer and student groups. The research goal is achieved when these concepts challenge or support the tacit knowledge of those who manage job upgrading and retraining programs.

Selection

Six community colleges provided contact people for the focus group interviews:

Green River Community College
Skagit Valley Community College
North Seattle Community College
Spokane Community College/Spokane Falls Community College
Edmonds Community College
Columbia Basin College

These colleges represent the urban, rural, east, west, large and mid-sized colleges in the community college system. All have cooperative programs with local businesses.

The colleges provided lists of contacts from firms that either contracted for services with the college, were on advisory committees or typically send students to the college. Borton contacted the employer to determine if they would be willing to participate in a group interview at the time allotted.

Industry representatives who participated in the focus groups represented 40 different firms. Participants were all knowledgeable about the training offered by the company and the community college. They included personnel directors, training directors, human resource managers, line managers, and chief executive officers. The firms represented ranged from five employees to more than 50,000. Ten had fewer than 100 employees and 19 had more than 1,000. More manufactures were represented as shown in Table B-I, but most industry sectors were represented.

Table B-1
Industries Represented in Borton Focus Groups

Industry Sector	Number of Firms
Wholesale and Retail Trade	6
Manugacturing	11
Government and Education	2
Business Services	4
Health Services	5
Other Services	-
Transportation/Public Utilities	6
Finance, Insurance, Real Estate	4
Construction	-

Focus Group Protocol

Employer focus groups typically were attended by eight employers. The group interviews of approximately two hours centered on five topics:

Description of the type of business
Organizational culture
Company's commitment to and participation in employee training programs
Goals and expectations for employee training
Training problems faced by the company

In addition to the interview, each employer completed a questionnaire providing information on the number of employees, and type and amount of training offered.

The focus group protocol was tested by conducting interviews using both students and employers from North Seattle Community College.

During the interviews an assistant charted the communication flow. The tape recorded interviews were typed verbatim. It was these transcriptions and the tape recordings which captured some of the vocal inflection and tone in the communication which Borton used for the analysis.

Data Analysis

Borton used a computer program called Ethnograph to code and sort the comments made in the focus groups. She then identified core concepts. After identifying patterns of responses, she tested the findings by referring to the original transcriptions and tapes.

APPENDIX C

DESCRIBING JOB UPGRADING AND CAREER CHANGE STUDENTS

Identification

At the time of registration, community college students are asked the following questions about their community college enrollment:

What is your main long-term goal for attending this community college?

11	Taking courses related to current or future work
12	Transfer to a four-year college
13	Improve skills for a career change
14	Explore a career direction
15	Personal enrichment
90	Other

How will your coursework relate to your current or future work?

11	Gain skills for a new job or career
12	Gain skills for my current job or career
13	Improve skills for a career change
14	Does not apply
90	Other

Community college job upgrading and retraining students are those who select 11 or 14 on the first question and 12 or 13 on the second question.

Analysis - The Sample

SBCCE drew a random sample of 2,086 students who selected 12 or 13 for the second question above during fall 1990 registration. Of this sample, 1,122 students also selected 11 or 14 on the first question. The enrollment and demographic analysis of job upgrading and retraining students was based on this group of 1,122 students.

Any sampling technique results in a potential for error when extrapolating from the sample to the entire population. In this case, the maximum error is calculated at plus or minus three percent.

Another error factor is that some 22 percent of the state and contract students enrolled in fall 1990 did not answer the two questions listed above. The failure to respond was partly due to exemptions from reporting which applied to about 12 percent of the students (not those likely to be enrolled for upgrading or retraining with few exceptions). The remaining non-responses were due to the newness of the process of collecting this information, which was implemented in summer 1990. Non-reporting leads to an error factor called response rate error. While this error factor cannot be quantified, it is assumed to be minimal due to the random nature of the non-reporting and the large number reporting.

The sample of 1,122 students was compared to the winter 1991 enrollment files to determine whether or not they continued at their community college.

Analysis - Courses Taken

The majority of upgrading and retraining students enrolled in vocational courses is shown in Table C-1. Career changers were more likely to be taking only academic courses or both academic and vocational courses than were their upgrading counterparts. Among the upgraders and career changers, about four percent were enrolled only in basic skill courses compared to about 12 percent for all students enrolled at the community college.

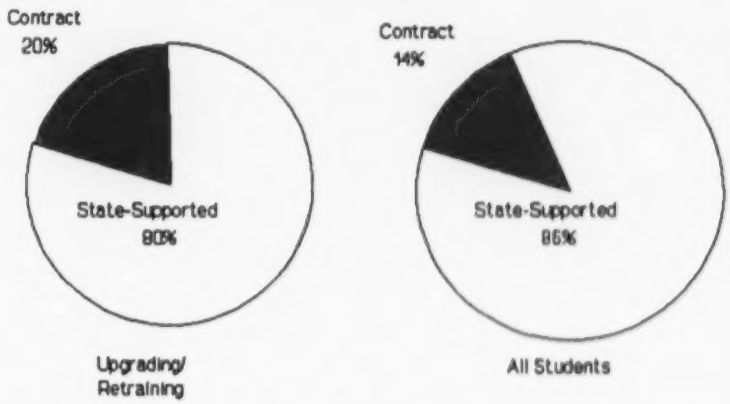
Table C-1
Upgraders and Career Changers
by Type of Courses Taken
Fall 1990

	Upgraders (25,200)	Career Changers (12,300)	Upgraders and Career Changers (37,500)
% of Students by Type of Course			
Vocational Courses	64%	45%	57%
Academic Courses	22%	32%	25%
Academic and Vocational	10%	18%	13%
Basic Skills Only	4%	5%	4%
% of Students by Selected Subjects (a student can enroll in more than one subject)			
Liberal Arts	16%	27%	20%
Business/Marketing	14%	14%	14%
Allied Health	10%	9%	10%
Data Processing	11%	6%	9%
Technical	10%	5%	8%
Trades	8%	2%	6%
Office Occupations	5%	9%	7%

Table C-1 also shows that about 20 percent of the upgrading and retraining students enrolled in liberal arts courses. Business was the next most popular subject.

Figure C-1 shows that contract courses are a more common vehicle for enrollment of upgrading and retraining students than for students in general. Still, most upgraders and career changers were enrolled in state-supported courses. This analysis provides no information on the upgraders or changers taking student-funded courses as such students were not required to answer the two questions on which the analysis was based.

Figure C-1
State and Contract Students
Fall 1990



Analysis - Enrollment Patterns

Upgraders and career changers enrolled for an average of 8 credits. As is often the case, the average does not provide a very accurate picture. The typical upgrader enrolled in a three or five credit course as did nearly half the career changers. Table C-2 shows the part-time and full-time status of each group compared to all students enrolled in fall 1990.

Table C-2
Upgraders and Career Changers
by Full-time Part-time Status
Fall 1990

	Upgraders (25,200)	Career Changers (12,300)	Both (37,500)	All Students (156,439)
Part-time	75%	48%	67%	48%
Full-time	25%	52%	33%	52%

Most of the upgrading and retraining students enroll during the day and on campus although they comprise a large share of the evening students.

The majority (53 percent) of upgrading and retraining students were enrolled at their current community college for the first time in fall of 1990.[5] Most of these new students were first-time college students, though 13 percent of the total group were transfers from other community colleges or four-year institutions. Of the new students, few planned to complete a degree (14 percent), but many planned to stay for a year or more without getting a degree (40 percent) as shown in Table C-3.

Figure C-2
Time and Place Enrollment
Fall 1990

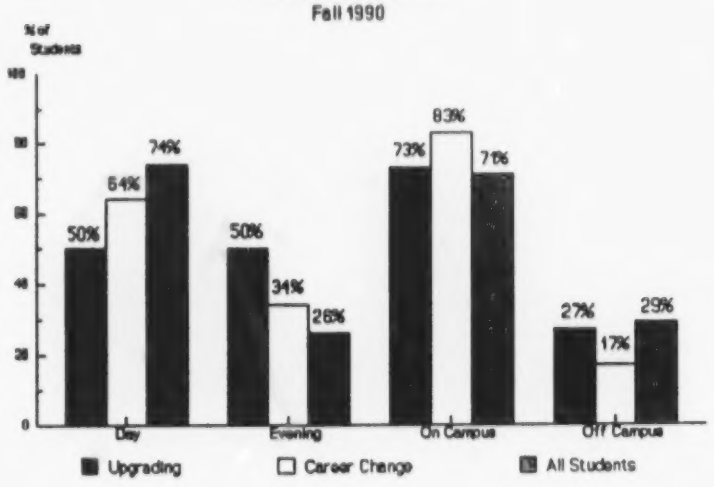


Table C-3
New Upgraders and Career Changers
by Planned Length of Attendance
Fall 1990

	Upgraders (8,800)	Career Changers (4,300)	Both (13,100)	All Students (55,665)
Planned Attendance (New Students Only)				
Don't Know	26%	18%	24%	25%
Complete Degree	11%	21%	14%	20%
More than One Year	22%	38%	26%	27%
One Year	6%	10%	7%	10%
Two Quarters	4%	3%	4%	5%
One Quarter	31%	12%	25%	14%

Most of the 47 percent who were continuing from an earlier quarter in fall 1990 had taken only a few credits when previously enrolled. About one in ten of the total group had completed enough credits to be regarded as sophomores (45 credits or more).

[5] Some of the 53 percent had enrolled in earlier quarters, but had withdrawn from their courses before being awarded a grade.

Of the students who enrolled in fall 1990, about 20,200 or 54 percent were enrolled in Winter Quarter as well. For the most part those who only planned to stay a single quarter did not return in winter and most of those who planned to stay longer or were undecided continued at the college.

Few upgraders (18 percent) had ever taken a basic skills or developmental studies course at their college. Nearly a third (30 percent) of the career changers had taken such courses to help them prepare for college level work. Upgraders and career changers were less likely than the typical student to receive need-based financial aid (6 percent for upgraders, 16 percent for career changers and 25 percent for all students).

Analysis - Demographics

As would be expected of students seeking a career change or upgrading their job skills, most of this group were employed while enrolled in college as shown in Table C-4.

Table C-4
Upgraders and Career Changers
by Employment Status While Enrolled
Fall 1990

	Upgraders (25,200)	Career Changers (12,300)	Both (37,500)	All Students (156,439)
% by Employment Status				
Full-time Work	66%	47%	60%	39%
Part-time Work	17%	20%	18%	31%
Seeking Employment	4%	10%	6%	11%
Full-time Homemaker	6%	10%	7%	11%
Other	7%	14%	9%	8%

Like other students, the majority (58 percent) of upgrading and retraining students were women. The group was slightly older than the typical student population with a median age of 32.2 versus 31.2 for all students enrolled in fall 1990.

Upgrading and career change students represented a less racially and ethnically diverse population than community college students as a whole as shown in Table C-5. Upgrading and retraining students were more diverse than the state's labor force, however, which was 10.1 percent people of color in 1987 (compared to 12.8 for the students). The race ethnic mix for all students enrolled in vocational courses was close to that of the upgrading and retraining mix.

Table C-5
Diversity of Upgraders and Career Changers
Fall 1990

	Upgraders (25,200)	Career Changers (12,300)	Both (37,500)	All Students (156,439)	All in Vocational Courses (64,960)
Asian/Pacific Islander	4.9%	3.7%	4.5%	6.8%	4.8%
African American	1.7%	6.5%	3.3%	4.4%	2.4%
Native American	1.5%	1.7%	1.6%	3.3%	3.0%
Hispanic	2.5%	1.7%	2.2%	1.7%	1.8%
Other	1.3%	1.1%	1.2%	1.4%	2.2%
Total Students of Color	11.9%	14.6%	12.8%	17.6%	14.2%
White	88.1%	85.4%	87.2%	82.4%	85.8%

About four percent of the upgrading and retraining students had disabilities compared to five and one half percent of all community college students.

Given that upgraders and career changers are older than the typical student, it is not surprising that nearly half were parents (45 percent compared to 33 percent of all students). Ten percent were single parents.

More than half the upgrading and retraining students enter the community college with prior post-secondary education. In fact, 20 percent already possessed the bachelor's degree as shown in Table C-6. About 60 percent of those who enroll with a bachelor's degree do so to upgrade and retrain.

Figure C-3
Family Status
Fall 1990

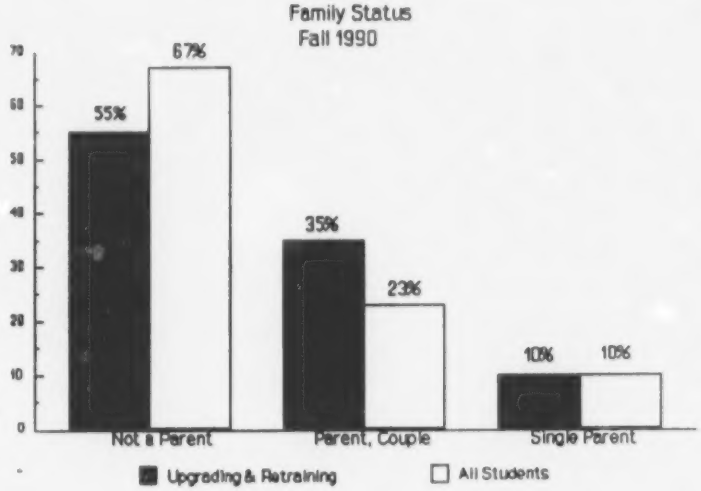


Table C-6
New Upgraders and Career Changers
by Prior Education Level
Fall 1990

	Upgraders and Career Changers New to College (13,100)	All Students New to College (55,665)
% Students by Prior Education		
Less than High School	3%	11%
GED Only	6%	5%
High School Only	35%	47%
Some College	31%	26%
Associate Degree	4%	4%
Bachelor's or Higher	20%	8%

Comparison with Student Intent Codes

In addition to asking students the two questions cited at the beginning of this appendix, each college determines the "student intent" of all who enroll. The student intent that has been regarded as a measure of upgrading activity is the "J" code (vocational supplemental). There has been no mechanism to identify career change students.

The **Vocational Outcomes in Washington Community Colleges: Baseline Report, 1990** provided evidence that many who enroll as upgraders or retraining students were coded with "student intent F" (vocational preparatory). Table C-7 shows that not only are many students regarded as upgrading and retraining by the definition used in this study coded with student intent "F", but many also have non-vocational student intents.

The majority of the students (60 percent) who were coded "J" by their college also were regarded as upgrading or retraining by the definitions used in this study. In the other cases the "J" code was assigned to students who do not see themselves as upgrading their current job skills or retraining.

Table C-7
Upgrader and Career Changers
by Student Intent
Fall 1990

	Upgraders (25,200)	Career Changers (12,300)	Both (37,500)
% by Student Intent			
Vocational Intents	76	59%	70%
Supplemental (J)	37%	18%	31%
Preparatory (F & G)	26%	41%	31%
Home/Family (K)	7%	1%	5%
Apprentice (H)	6%		4%
Non-Vocational Intents	24%	41%	30%
Transfer (B)	10%	21%	14%
General Studies (A)	4%	8%	6%
No Degree (L)	5%	7%	6%
Other (C,D,E,X,Y)	5%	4%	5%
Total	100%	100%	100%

APPENDIX D

EMPLOYER SURVEY

The analysis of the experience of employers in seeking customized training for their employees was based in part on the results of a mail survey of 4,204 Washington employers. The survey was administered by the Social and Economic Sciences Research Center (SESRC) of Washington State University over an eight week period between May and July 1990. SESRC supplied SBCCE with a copy of the data disk containing answers from all 4,204 respondents. SBCCE used these data files in the analysis.

Questionnaire

The 15-page questionnaire for the Employee Training and Retraining in the 1990's: A Survey of Washington State Employers was developed by the Office of Financial Management (OFM) to meet various needs of the Investment in Human Capital study. Pages 10 through 12 included questions about the companies' experiences with the training system related to customized training. A copy of the relevant section of the instrument is included in this Appendix.

The questions which employers answered where:

> Has your company every contacted a school (below the four-year college level) or training program to train workers for its business?
>
> If no, what is the reason?
>
> Which school or training program did your company contact most recently?
>
> Which types of training was your company interested in getting from this school or program?
>
> Was the school or program able to solve most of your company's training needs?
>
> If, not why not?

Survey Sample Frame

The Employment Security Department, in conjunction with OFM, developed a sample frame of 12,064 firms for the survey[6] from the population of 52,980 private and federal, state and local government employers with from 5 to 5,000 employees in June 1989.

The sample was stratified according to the following categories:

* Government versus private
* For private employers: New, expanding or other

Due to an administrative error, surveys were actually sent to 11,063 employers of the 12,064 sample.

---

[6] Approximately 8,000 employers involved in either the Survey of Small Business Training and Retraining Needs or the Minimum Wage Study were excluded from the sample frame.

Survey Administration

SESRC mailed the surveys between May 18 and May 30, 1990 with a cover letter from the Center, a letter signed by the governor and a stamped return envelope. The initial mailing was followed up by a postcard and up to two follow-up letters which included another copy of the questionnaire and return envelopes.

The SESRC staff coded and keypunched all questionnaires returned by July 18, 1990. The data was entered onto a computer using the Microcomputer Assisted Telephone Interviewing (MATI) facilities to aid in translating the survey into data files. A second data entry of the same survey using the same system was completed to verify the entries.

Defining the Degree of Certainty in Using the Survey Findings

As described in Appendix A (page A-2), surveys vary in the degree of certainty with which one can apply the results of a sample survey to the total population. While the weighted results broadly represent Washington state employers, and the survey responses can be interpreted as providing the perspective of businesses in the state, it is important to review the reasons for moderate uncertainty in using the results.

Non-coverage: This factor relates to the extent to which the entire population had an opportunity to be included in the survey. In this case, all but those who were excluded because they had recently been included in randomly selected survey groups had an equal chance of being selected.

The Employment Security data base provides a reasonably updated source for identifying employers in the state. Only 1,187 surveys (11 percent of the total) were returned undeliverable - the firms were probably no longer in business. It is probable that an equal number of new firms was not included in the frame as they had not yet filed a quarterly report with Employment Security. It is likely that error from this source was minimal.

Sampling error: This is the error inherent in selecting only some to represent the total population. The stratified sample had some strata selected with certainty, thus no sampling error was involved. OFM did not calculate a sampling error factor for the remaining sample, though it is assumed to be negligible. Due to the oversampling for some strata and differences in response rate to be discussed later, the data analyzed in this study were weighted as follows:

New employers:	1.805
Expanding employers:	1.445
Government	.533
Others	.900

Measurement error: This factor includes whether the questions measure what the researcher intended, whether the questions were understandable and whether the responses were accurately keypunched. While the Investment in Human Capital study did not allow extensive pre-testing of the questionnaire, it is likely that the instrument generally measured what was expected and was meaningful to the employer respondent.

One exception, however, is that the number of respondents who said they had recently used a specific training institution was more than twice the number who answered yes to the question about ever contacting a school to train workers. It is likely that what respondents meant by "contact" was not entirely consistent. The survey also was quite lengthy and some respondent fatigue may contribute to some measurement error.

Response rate: This factor considers the uncertainty created if non-respondents are likely to differ considerably from respondents in terms of what was measured by the questionnaire. This is a difficult factor to evaluate as information on non-respondents opinion is unknown. In the absence of such information, researchers have established norms for response rates and methods for considering variations between the respondents and non-respondents.

Non-response bias is the most significant potential source of error in this particular survey. A total of 4,204 employers completed the survey. As shown in Table D-1, this represents a completion rate of 43 percent. Since this represents a below average rate for a mail survey of this type, OFM performed an analysis of the respondents and non-respondents.

TABLE D-1
Completion Rate Statistics

Number of Employers		Description
11,063		Questionnaires mailed
1,234		Blank questionnaires returned
	(1,184)	Return to sender, undeliverable
	(45)	Ineligible
____	(2)	Other
9,826		Eligible sample of respondents
4,204	(42.8%)	Completed questionnaires returned
279	(2.8%)	Refused to participate
5,349	(54.4%)	Questionnaires not completed nor returned

Using both a chi-squared statistic and an ordinary least squares regression model using the response as the dependent variable, OFM found that government and non-profit employers were significantly more likely to respond to the survey. They also found that firms with 250 to 999 employees were more likely than smaller firms to respond as were firms in the Puget Sound. The over-response of the government and non-profit factor was somewhat mitigated by the weighting. No adjustment was made for the over-response of relatively large and non-Puget Sound firms.

EXPERIENCES WITH THE TRAINING SYSTEM

In this section we want to learn about your company's experiences with different schools, colleges, or training programs. We want to know whether or not your company has been satisfied with the training provided by schools or training programs below the four year college level and whether these schools or training programs have been responsive to your company's special training needs.

Q22. Employers sometimes get help from schools or training programs to provide special training for new or current employees. Has your company ever contacted a school (below the four-year college level) or training program to train workers for its business?

1 YES ——→ SKIP TO Q24
2 NO

Q23. Which of the following are reasons why your company has not asked schools, community colleges, or training programs to train new or current employees for its business: (Please circle one answer for each question.)

	IS A REASON	NOT A REASON
A. We were not aware that this possibility existed	1	2
B. The cost would be too high.	1	2
C. We do not think that qualified instructors exist for the training that our company needs	1	2
D. We were not aware of whom to approach for this help . .	1	2
E. We do not think that schools have the required equipment or facilities	1	2
F. We have not found schools to be responsive to our needs in the past	1	2
G. We believe that our training needs are too unique or specialized	1	2
H. Our company conducts its own training	1	2
I. Our company has been able to find all the qualified workers that it needs	1	2
J. Training programs are usually not accessible to our employees	1	2

SKIP TO Q30

Q24. What was the most recent year that your company contacted a school or training program?

_____ MOST RECENT YEAR

Q25. Which ONE of the following schools or programs did your company contact most recently?

1 HIGH SCHOOL VOCATIONAL PROGRAM (INCLUDING SKILLS CENTERS)

2 APPRENTICESHIP PROGRAM

3 PRIVATE INDUSTRY COUNCIL (PIC) OR JTPA PROGRAM

4 PRIVATE TRADE OR BUSINESS SCHOOL

5 VOCATIONAL-TECHNICAL INSTITUTE (Renton VTI, Lake Washington VTI, Clover Park VTI, LH Bates VTI, Bellingham VTI)

6 COMMUNITY COLLEGE

7 OTHER KIND OF EDUCATIONAL PROGRAM _____
(Please specify)

Q26. What was the name of this school or training program?

_____

Q27. Below is a list of different types of training that a company might need for its employees. Please indicate which of these types of training your company was interested in getting from this school or program.

	YES	NO
A. Liberal arts training.	1	2
B. Training in a professional field or specialty.	1	2
C. Training in a specialized technical field related directly to a job.	1	2
D. Basic skills training such as reading, writing, and arithmetic.	1	2
E. Training in human relations skills	1	2
F. Training in thinking and reasoning skills.	1	2
G. Training in appropriate work habits and attitudes. . .	1	2
H. Training in written or oral communication skills . . .	1	2

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Q28. Was the school or program able to solve most of your company's training needs?

1 YES
2 NO → Q29

Q29. Which of the following are reasons why this school or training program was not able to solve your company's training needs?

		IS A REASON	IS NOT A REASON
A.	The company could not afford to pay the cost of training.	1	2
B.	The school could not provide training within the time span the company needed.	1	2
C.	There was a lack of demand for the skill.	1	2
D.	There were not enough qualified instructors available	1	2
E.	Appropriate equipment or facilities were not available.	1	2
F.	The training was not within the mission of the school	1	2
G.	Other reasons _____ (Please describe)		

Q30. In general, how satisfied are you with employees hired from the following educational and training backgrounds: (Please circle N/A if your company has no employees with the indicated educational background.)

		VERY SATISFIED	SOMEWHAT SATISFIED	SOMEWHAT UNSATISFIED	VERY UNSATISFIED	N/A
A.	Less than High School degree.	1	2	3	4	5
B.	Private Industry Council (PIC) or JTPA program	1	2	3	4	5
C.	High school vocational program (including skills centers).	1	2	3	4	5
D.	General High School degree.	1	2	3	4	5
E.	Vocational-Technical Institute (Renton, Lake Washington, LH Bates Clover Park, Bellingham VTI's).	1	2	3	4	5
F.	Apprenticeship program.	1	2	3	4	5
G.	Private Trade or Business school	1	2	3	4	5
H.	Community College	1	2	3	4	5
I.	Four-year Colleges.	1	2	3	4	5

APPENDIX E

OUTCOMES RESEARCH PROJECTS

Completed Studies

Vocational Outcomes in Washington Community Colleges: Baseline Report, October 1990

Adult Basic Education in Washington Community Colleges: A Follow-up Study, March 1991

Assessment of Meeting Employer Needs and the Labor Market Experience of Job Upgrading and Retraining Students in Washington Community Colleges: A Baseline Report on of Students, June 1991

In Progress

Writing Outcomes in Washington Community Colleges - Faculty Perceptions: Baseline Report, July 1991

Transfer Rates from Washington Community Colleges: Baseline Report, July 1991

Vocational Outcomes in Washington Community Colleges: Second Year Update, November 1991

Transfer Outcomes in Washington Community Colleges: Baseline Report, December 1991

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ERIC Clearinghouse for
Junior Colleges

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